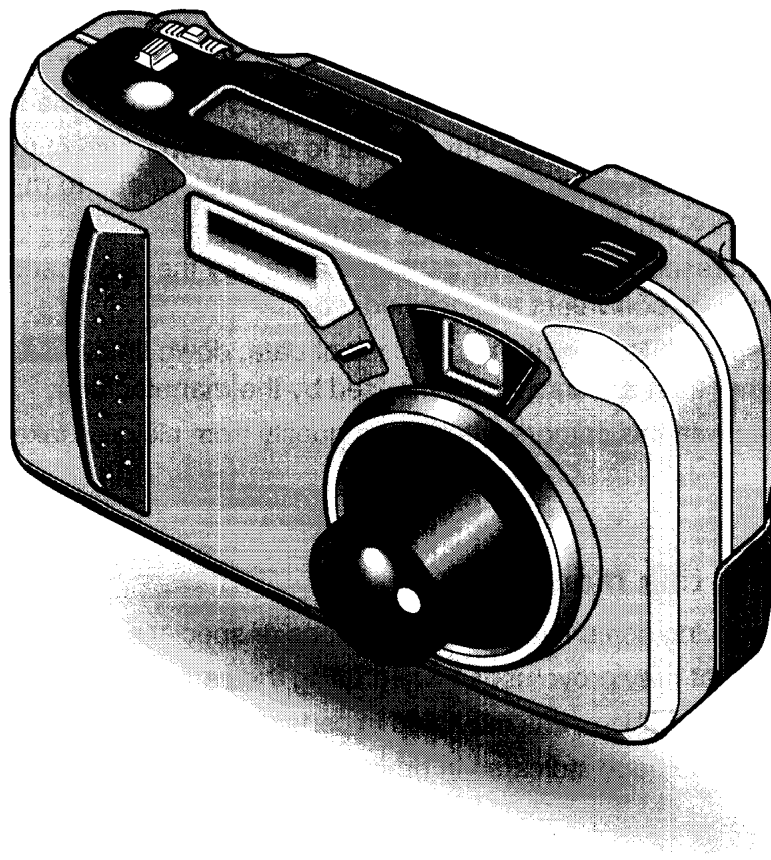


SANYO

INSTRUCTION MANUAL

Digital Camera

VPC-Z400E



 **SmartMedia™**
(SSFDC)

Please read these instructions carefully before using the camera. Make sure to read and understand the section "USING YOUR DIGITAL CAMERA SAFELY AND CORRECTLY" from page 3 to 10. Keep this manual in a safe place, for later reference.

BEFORE READING THE MANUAL

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Macintosh and Power Macintosh are registered trademarks of Apple Computer Inc.

Windows and Windows NT are registered trademarks of Microsoft Corporation.

SmartMedia is a trademark of Toshiba Corporation.

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Caution

- This manual or part of this manual may not be reproduced without prior written permission.
- The contents of this manual may be changed without any prior notice.
- We decline all responsibility for any damage or other, resulting from the use of this camera.
- We decline all responsibility for any damage due to an improper use of the camera, due to improper application of the instructions given in this manual, or due to repairs or changes done by other than a technician authorised by the manufacturer.
- We will not be held responsible for any damage caused by the use of add-ons other than the original accessories, or equivalent as specified.
- We decline all responsibility concerning the loss of data, down time, loss of revenue due to a repair done by other than a technician authorised by the manufacturer.
- The pictures taken with this camera will differ in quality from pictures taken with a standard film camera.

Symbols used in this manual

NOTE	Points giving some extended instructions or special points to pay attention to.
HINT	Points that may prove useful when using the camera.
HELP	In case of problem, this may help in certain situations.
[page xx]	Refer to the page indicated in brackets for detailed information.

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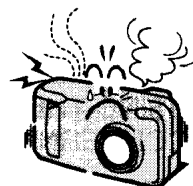
USING YOUR DIGITAL CAMERA SAFELY AND CORRECTLY

Safety Precautions

WARNING

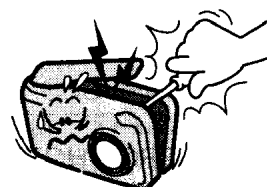
■ Do not use the camera if it makes a strange noise, emits a strange odor or if smoke comes out from it

- If the camera is used under these conditions, that may cause a fire or electric shock. Immediately remove the batteries, wait to make sure no more smoke comes from the unit, then take it to the dealer for service. The user should not try to open or repair the unit.



■ Do not modify or open the cabinet

- High tension circuits inside, high risk of fire or electric shock if touched. Any internal check, setting or repair should be referred to the dealer.



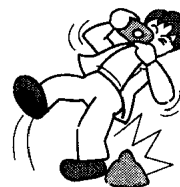
■ Do not use while driving

- While driving a car, motorcycle, etc., do not take pictures, playback pictures or look at the LCD monitor screen. That may cause an accident.
- It is dangerous to have the camera inside a car. Be careful with the camera inside the car, as it may fall behind the brake pedal and prevent braking.
- If using the camera while walking, be very careful with your environment and the traffic, in order to avoid accidents.



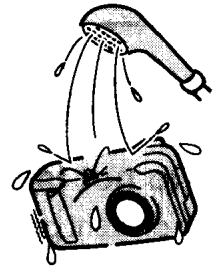
■ When taking pictures be aware of your environment

- Do not take pictures without fully understanding the environment situation, or that may cause an accident or injuries.
- Do not use the camera inside a plane or other places where its use may be restricted, as that may cause an accident.



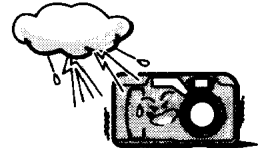
■ Do not get the camera wet

- This camera is not water-resistant, make sure it does not get wet, or that may cause a fire or electric shock.
- Do not use in a bathroom.
- If it got wet, turn the camera off, remove the batteries immediately, then take the camera to the dealer.
If used like that, it may cause a fire, electric shock or an accident.



■ Do not use during a storm

- Do not use when there is thunder as that indicates the risk of lightning. In particular, if used in an open field you may be struck by lightning. Quickly seek refuge in a place that will protect you from lightning.



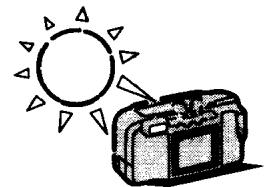
■ Do not place on an unstable surface

- It may fall down, causing injuries or damages.
- If the camera has fallen down, and the cabinet has been damaged, turn the camera off, remove the batteries and take it to the dealer.
If used like that, it may cause a fire or electric shock.



■ Do not look into the sun

- Do not take a picture of the sun or any other strong source of light. That may cause injuries to the eyes.

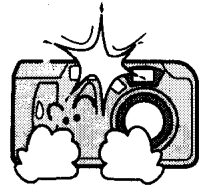


USING YOUR DIGITAL CAMERA SAFELY AND CORRECTLY

WARNING

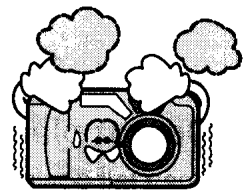
■ Do not take a picture using the flash close a person's face

- To prevent possible eye injury, do not take pictures of people's face (babies in particular) at close range using the flash. If the flash is discharged too close to a person's opened eyes, there is a risk that it may damage that person's eyesight.



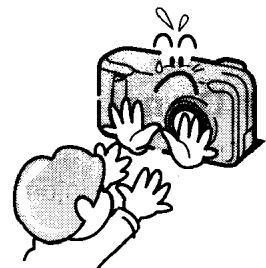
■ Do not use where there is a risk of explosion

- Do not use the camera in a location where there is explosive gas, or any other flammable material in the air. That may set it on fire or cause an explosion.



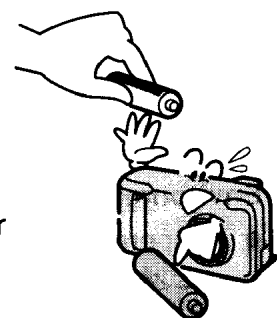
■ Keep the camera away from children's reach

- The following may happen if children play with the camera.
 - They may wrap the strap around their neck and suffocate.
 - They may swallow the batteries or other small parts.
In such a case, consult a doctor immediately.
 - They may damage their eyesight if the flash goes off too close to their eyes.
 - They may get hurt by the camera.



■ Precautions concerning the batteries

- Use only AA Alkaline batteries, or the other specified types of batteries. Manganese batteries cannot be used, as they have a short battery life and may overheat causing damage to the camera.
 - Do not use old batteries together with new ones. Do not use different types, such as Alkaline batteries or NiCd rechargeable batteries, etc., or batteries of different brands at the same time.
 - Make sure not to invert the polarity ((+) and (-)) when installing the batteries. Install the batteries respecting the indicated polarity.
 - If different types or brands of batteries are used at the same time, they may generate heat or leak, and that may start a fire, cause injuries or burns and damage the camera and any other object placed close by.
-
- Right after use, the batteries may be warm, if removing the batteries, turn off the camera and wait for the batteries to cool down.
 - If the batteries leak and liquid gets on your hands or clothing, rinse with clean water. If the liquid gets into your eyes, you may lose your eyesight. Immediately rinse your eyes with clean water, then seek medical attention.
 - Do not drop or hit the batteries.
 - If the camera is not going to be used for a long period, remove the batteries and store them in a cool place. (When the batteries are removed, the time and date settings will be cleared.)
 - When disposing of batteries, make sure to follow all applicable regulations.
 - If used by temperatures below 10°C, the batteries service life will be shorter than normal.
 - If using rechargeable batteries, make sure you use only the charger specified for the concerned batteries, and that they can be recharged safely.
 - Read carefully all the documentation accompanying the rechargeable batteries and their charger.

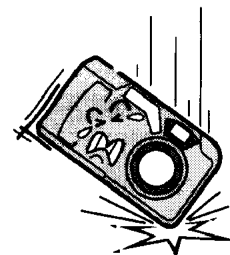


USING YOUR DIGITAL CAMERA SAFELY AND CORRECTLY

CAUTION

■ Precautions when carrying the camera

- Do not walk around holding the camera by the hand-strap, it may hit other objects and get damaged. When walking around, hold the camera in your hand or place it in a pocket.
- Be careful not to drop the camera or subject it to strong shock.
- Make sure direct sunlight does not hit the lens, as that may damage the internal parts. When not taking pictures, be sure to always put the lens cap back on and keep the camera in its pouch.

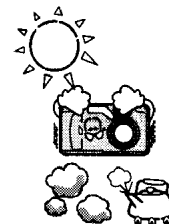


■ Precautions during use and for storage

- This camera is a precision instrument. When using or storing it, make sure to avoid the following types of conditions, in order to avoid damage.
 - Places in direct sunlight.
 - Places where humidity and temperature are high.
 - Places that may get wet.
 - Close to an air conditioner or heater.
 - Inside a car.
 - Places where there is dust and dirt.
 - Places where there is a fire burning.
 - Places where volatile products are stored.
 - Places subject to vibrations.

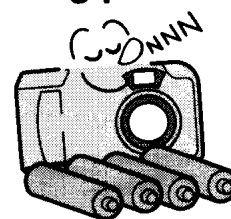
Environment of use

- | | |
|----------------------|---------------------------------------|
| • Temperature | • Humidity |
| 0 – 40°C (operation) | 30 – 90 % (operation, non condensing) |
| –20 – 60°C (storage) | 10 – 90 % (storage, non condensing) |



■ Precautions if the camera is not going to be used for a long period

- For safety, remove the batteries. The batteries may generate heat or leak, and that may start a fire, cause injuries or burns and damage the camera and any other object placed close by. (When the batteries are removed, the time and date settings will be cleared.)
- The damages caused if the batteries leak are not covered by the manufacturer's warranty.



■ Precautions concerning the use of the AC adaptor

- If you plan to use an AC adaptor with your digital camera (VPC-Z400E), only use the specified AC adaptor (model VAR-G2E) sold separately. Make sure to never use an AC adaptor other than the one indicated here, conceived for specific use with your digital camera.
- If an AC adaptor other than the specific one listed here is used it may damage the camera, and cause a fire or electric shocks.
- For complete information on how to use the AC adaptor, please refer to the instructions accompanying the AC adaptor (model VAR-G2E).

■ Precautions concerning the storage of the SmartMedia

- Please keep out of reach of children. Due to its small size, young children may put it in their mouth and they may choke or serious injuries may occur.

POINTS TO FOLLOW FOR CORRECT USE OF THE CAMERA

■ Before taking important pictures

- When taking important pictures, check to make sure that they can be correctly recorded.
- We cannot accept any responsibility, for pictures that cannot be recorded, or if all or any of the recorded pictures are erased or otherwise destroyed or damaged due to a problem with the camera, any of the accessories or software.

■ Concerning copyrights

- The pictures you take with your digital camera are for your own private use, any other use may violate the rights of copyrights owners.

■ Precautions when cleaning the cabinet

Cleaning

- 1 Turn the power off and remove the batteries.
- 2 Remove the dirt with a humid soft cloth.

To remove stains...

- 3 Wipe with a soft cloth moistened with a mild detergent solution and wrung dry, then wipe with a dry soft cloth.

Caution

- Do not use benzene, thinner or other chemical product on the cabinet, as that may cause deformation and/or discoloration and paint peeling. When using a chemically treated cloth, make sure to read carefully the instructions and warnings.
- Do not spray insecticide, etc., or any volatile products on the camera. Do not leave rubber or vinyl objects against the camera for a long period. That may cause deformation and/or discoloration and paint peeling.

■ Precautions when cleaning the lens

- If the lens gets dirty, use a commercially available air blower or a cleaning cloth for photographic equipment to clean it.

■ Precautions when not using the camera

When not used

- Put the lens cap back on and keep the camera in its pouch.

When not used for a long period of time

- Remove the batteries. To keep all features functioning properly, from time to time, insert the batteries and check the camera operation.
- When batteries are left in the camera, a small amount of their power is used by certain functions of the camera. If using NiCd rechargeable batteries, they may become completely discharged and lose their ability to be recharged again.

USING YOUR DIGITAL CAMERA SAFELY AND CORRECTLY

■ Precautions concerning condensation (dew)

- If the digital camera is used with condensation inside, that may damage it.

What is condensation...

- Condensation (or dew) is the moisture that forms on the outside of a glass when filled with cold water. Condensation can also form on the inside of the camera.

Be careful of condensation under the following conditions

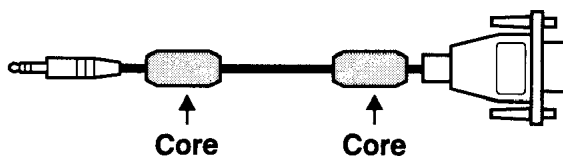
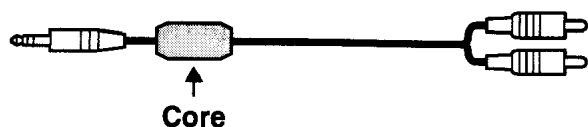
- When moving the camera suddenly from a cold place to a warm room.
- When the heater has been turned on to quickly heat the room.
- When the camera is placed in the path of cool air from an air conditioner.
- When the camera is placed where the humidity is high.

If there is risk of condensation

- Place the camera in a plastic bag, seal it and wait until the camera has reached the ambient temperature to use it.

■ Precautions concerning undesired interference

- The digital camera may create undesired interference if used close to a TV or radio. To avoid these interferences, make sure the cores on the supplied AV cable and computer serial port interface cable are not removed.



■ Data storage

- It is recommended that any important data should be copied onto separate media (such as a floppy disk, hard disk or MO disk).
- The data stored on the SmartMedia may become lost (corrupted) in cases such as the following.
 - If the SmartMedia is used incorrectly
 - If the SmartMedia is not inserted correctly into the digital camera
 - If the SmartMedia is subjected to electrical or mechanical shocks or other forces
 - If the SmartMedia is removed from the digital camera or if the digital camera's power supply is turned off during reading or writing operations
 - If the SmartMedia has reached the end of its useful life
- Sanyo will not be responsible for any damage or loss of profits arising from the loss of data.

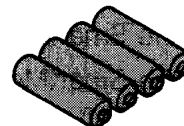
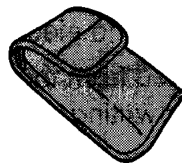
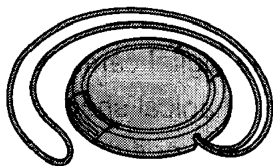
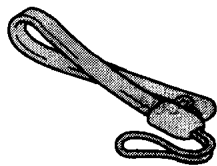
■ Precautions on handling the SmartMedia

- The SmartMedia is a precision device. Do not bend it, drop it or subject it to strong forces or shocks.
- Avoid using or storing the SmartMedia in places where strong static electrical charges or electrical noise can be easily generated. Use at a relative humidity of 90% or lower. (No condensation should form.)
- Do not touch the contact surface with your fingers or allow it to become contaminated with foreign materials. Gently wipe away any contamination with a soft, dry cloth.
- Attach only the supplied accessory labels and stickers to the index area and the write-protect area. If materials other than those supplied as accessories are attached, problems may result when inserting or removing the SmartMedia.
- Store the SmartMedia inside its protective case to protect it from static electricity.
- Do not carry the SmartMedia inside trouser pockets, as it may become damaged if forces are applied such as when sitting down.

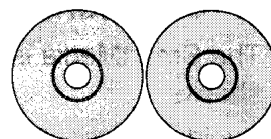
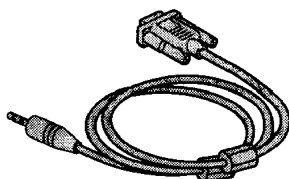
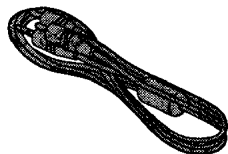
CHECKING THE INCLUDED ACCESSORIES

Open the box and check that all accessories listed below are included.

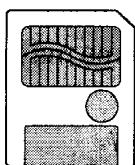
- Hand-strap [page 14]
- Lens cap [page 14]
- Soft case (Carrying pouch) [page 14]
- 4 AA alkaline batteries [page 21]



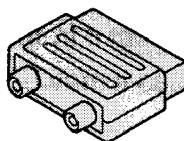
- AV cable [page 34, 63]
- Computer serial port interface cable [page 74]
- Adaptor for Macintosh computer [page 74]
- Software: 2 CD-ROMs



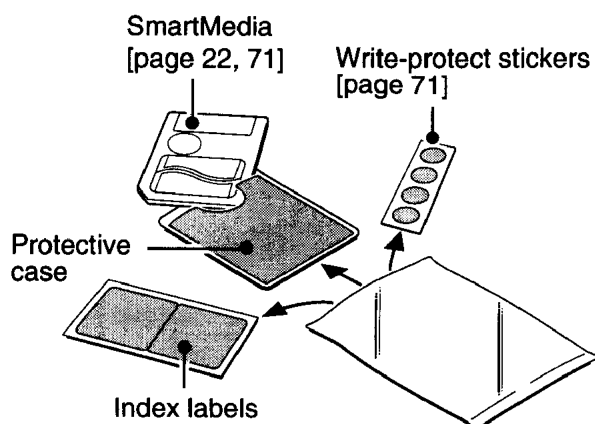
- SmartMedia kit



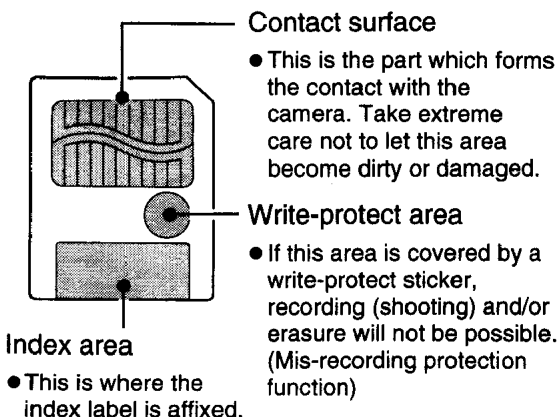
- SCART adaptor
Use this adaptor to connect an AV cable to a TV or VCR equipped with the EURO-AV type audio/video input terminal. [page 34, 63]



Accessories included in the SmartMedia kit



- Name and function of each part of the SmartMedia



- Store the SmartMedia inside its protective case to protect it from static electricity.

QUICK REFERENCE GUIDE

Using this “Quick reference guide” you can easily find the instructions for the desired function of the camera.

CHECKING THE CAMERA STATUS	Page
■ To check the batteries remaining charge	30
■ To check the number of pictures that can be taken	31

TAKING PICTURES

■ To save the batteries power	
● Using the viewfinder to take pictures	42
● Using the LCD monitor screen solar panel function	33
■ To take pictures while looking at the LCD monitor screen in order to confirm the picture composition	
● Using the LCD monitor screen to take pictures	43
■ To take pictures of flowers or documents at close range	
● Macro photography	46
■ To take pictures with the flash in automatic mode	
● Automatic flash	47
■ To force the flash operation	
● Forced flash	47
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● Flash off	47
■ To take pictures with sound	
● Using the voice memo function	49
■ To change the resolution	
● Setting the resolution (Picture quality)	38
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● Concerning the Automatic and Manual shooting modes	39
■ To take pictures automatically	
● Using the self-timer	50
■ To take pictures in a backlight situation	
● Using the exposure correction function	51
■ To take pictures of a poorly light subject	
● Using the exposure correction function	51
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● Using the optical zoom function	45
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■ To take pictures with the iris fully opened or closed	
● Aperture priority shooting mode	53
■ Taking pictures with true natural colours	
● White balance correction	55
■ To take pictures that capture a movement	
● Sequential shot	59

QUICK REFERENCE GUIDE

PLAYING BACK (VIEWING) PICTURES

Page

- **To view the date/time of the picture**
 - Date/time display function 28
- **To hide the date/time from the picture during playback**
 - Date/time display function 28
- **To play back recordings**
 - Playing back one picture 60
 - Automatic playback, 9 pictures multi-playback 61
- **To zoom in (enlarge) the playback picture**
 - Playback zoom in function 64
- **To view pictures on a TV set**
 - Playback using a TV set 63
- **To listen to the sound**
 - Voice memo (sound) playback 63

FINDING THE DESIRED PICTURE

- **To view the pictures while displayed automatically**
 - Automatic playback 61
- **To view the pictures while displayed nine at a time**
 - 9 pictures multi-playback 61

SOUND EDITING

- **To add sound to a picture**
 - Adding a voice memo 65

PROTECTING YOUR PICTURES AND SMARTMEDIA FORMATTING

- **To avoid erasing certain pictures**
 - Protect mode (preventing accidental erasure) 67
- **To cancel the picture protection (allow erasure)**
 - Cancelling the protect mode 67
- **To avoid erasing the data on the SmartMedia**
 - Mis-recording protection function 71
- **To format the SmartMedia**
 - Formatting the SmartMedia 72

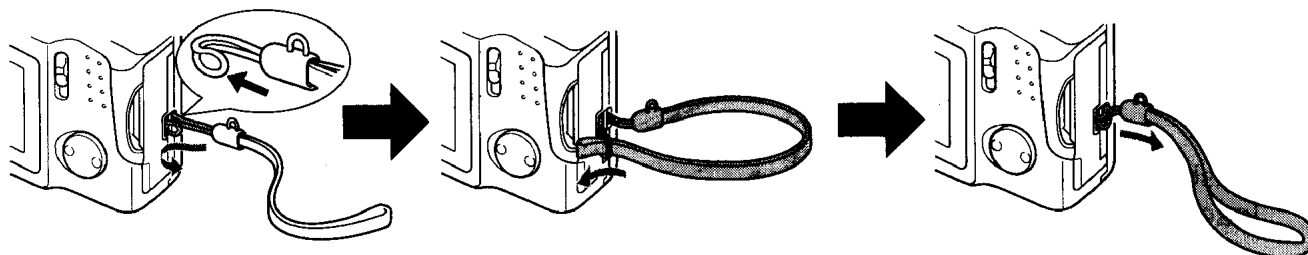
USING THE HAND-STRAP, LENS CAP AND CARRYING POUCH

Use the supplied hand-strap and carrying pouch for convenience and to protect the camera.

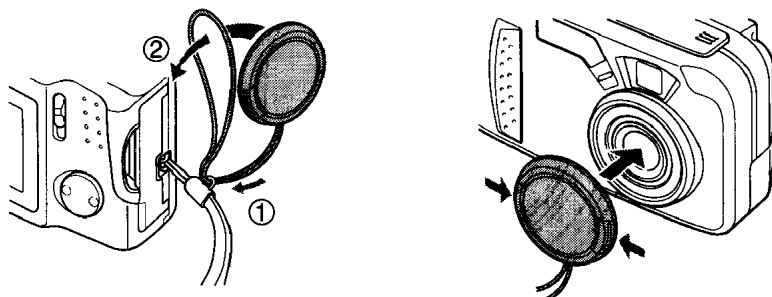
Also, when the camera is not being used, be sure to always put the lens cap back on and keep it in the pouch.

Attaching the Hand-Strap and Lens Cap

Bend the looped extremity of the strap for easy insertion.

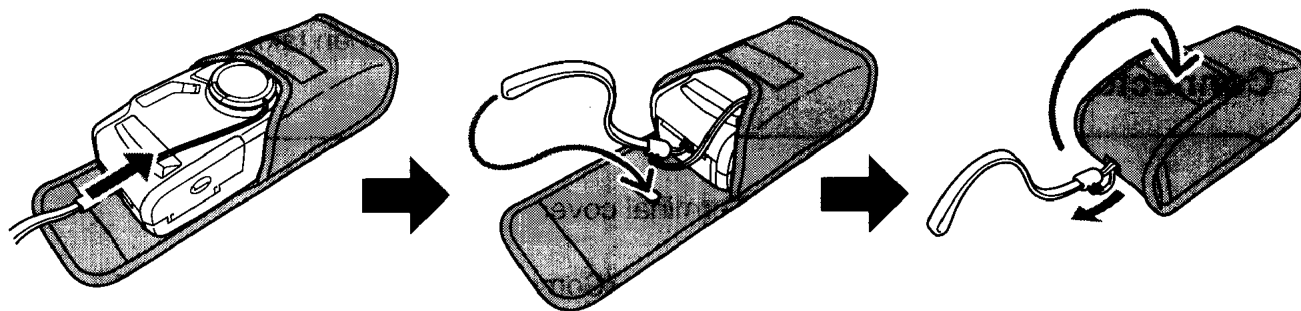


Attach the lens cap string to the hand-strap.

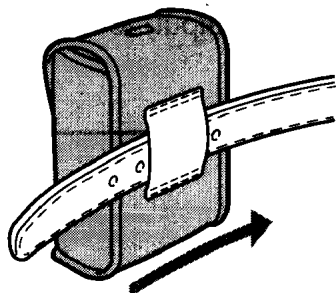


Using the Carrying Pouch

Slide the hand-strap into the pouch side opening.



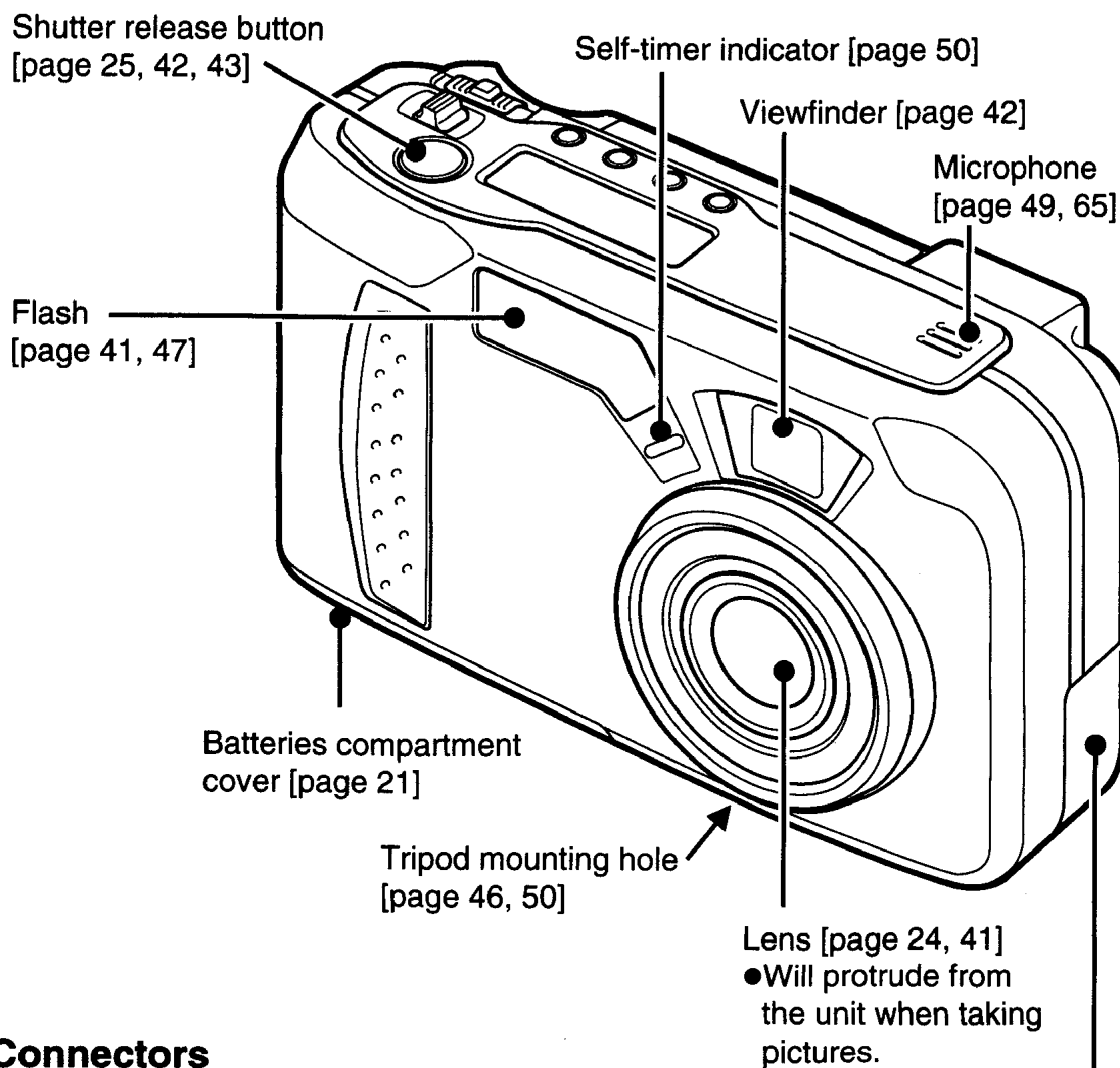
It can also be worn on a belt, etc.



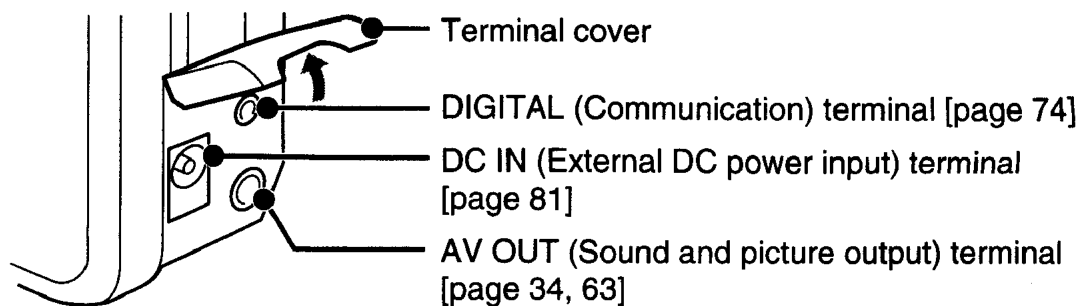
PARTS NAMES

[page xx] refers to the page(s) where the concerned part function is explained in details.

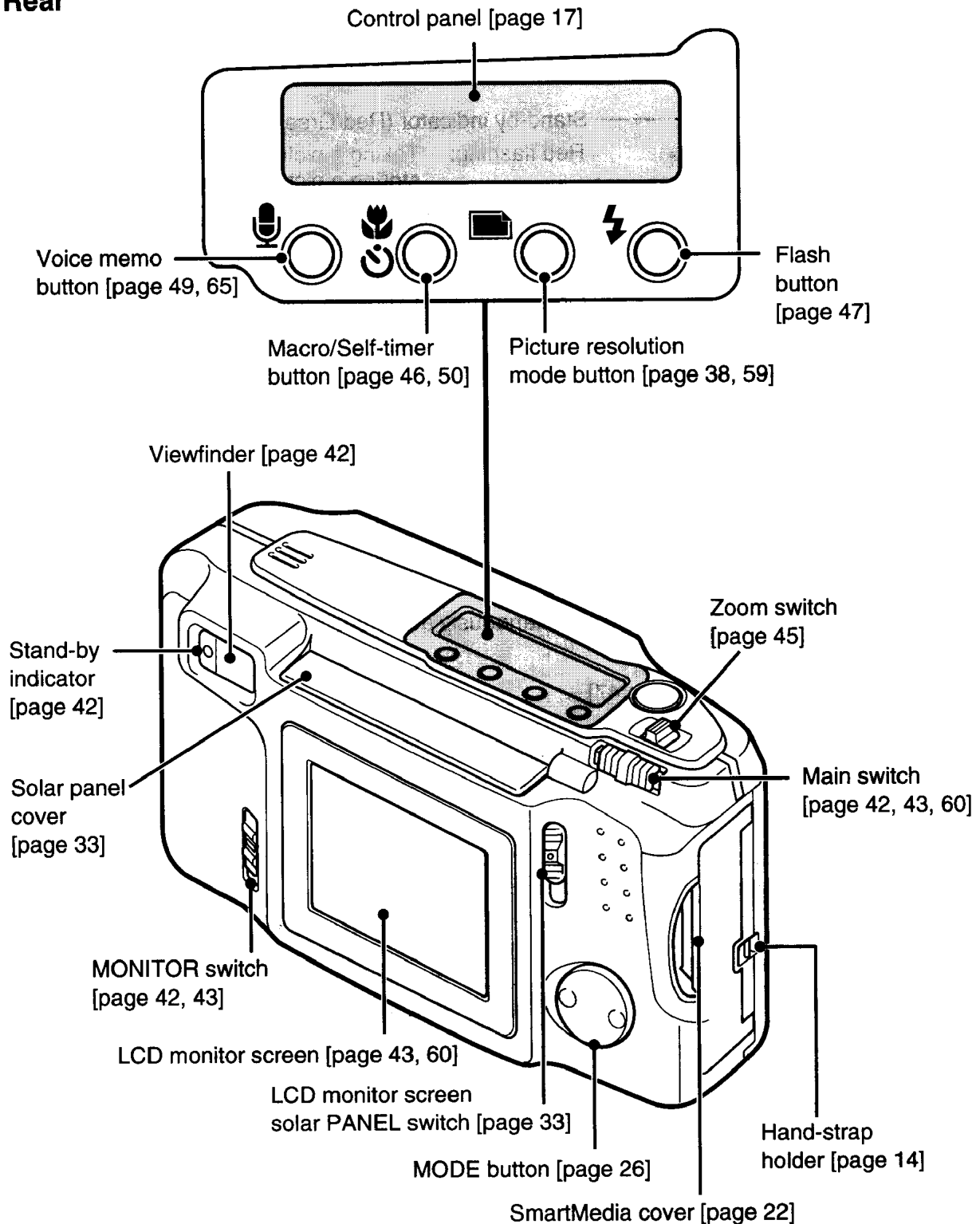
Front



Connectors



Rear



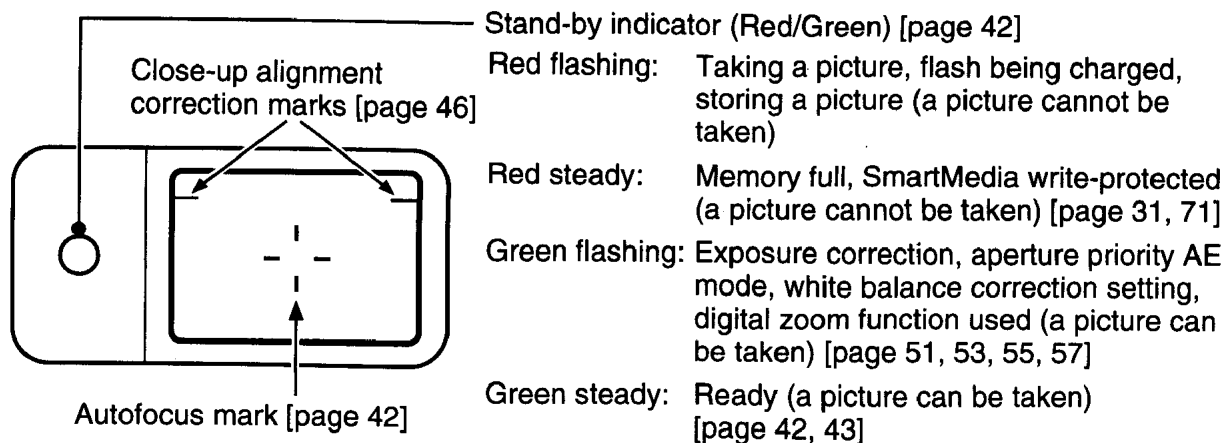
NOTE:

- During use, the area around the LCD monitor screen may become warm. This is due to a rise in temperature of the internal parts and is normal.
- When displaying pictures on the LCD monitor screen, you may see some missing pixels (such as black or white dots) or mixed color pixels, this is normal and does not indicate a problem of the camera.

PARTS NAMES (VIEWFINDER, CONTROL PANEL)

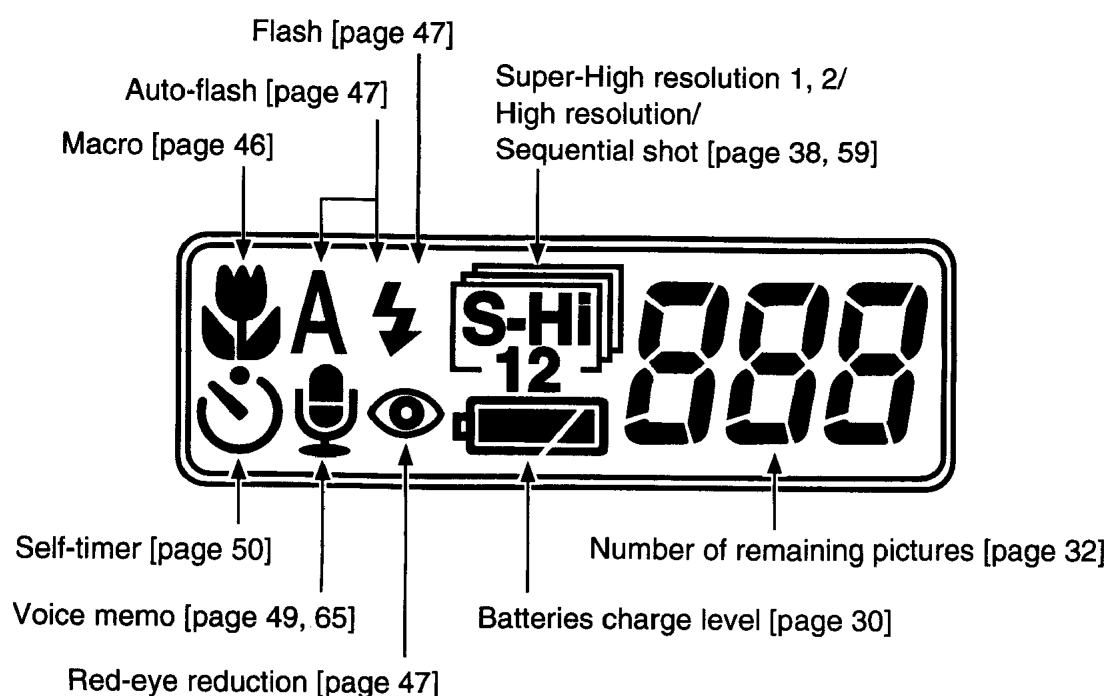
[page xx] refers to the page(s) where the concerned part function is explained in details.

Indications Inside the Viewfinder



Control Panel Indications

All the indications will not be displayed simultaneously as in the illustration.

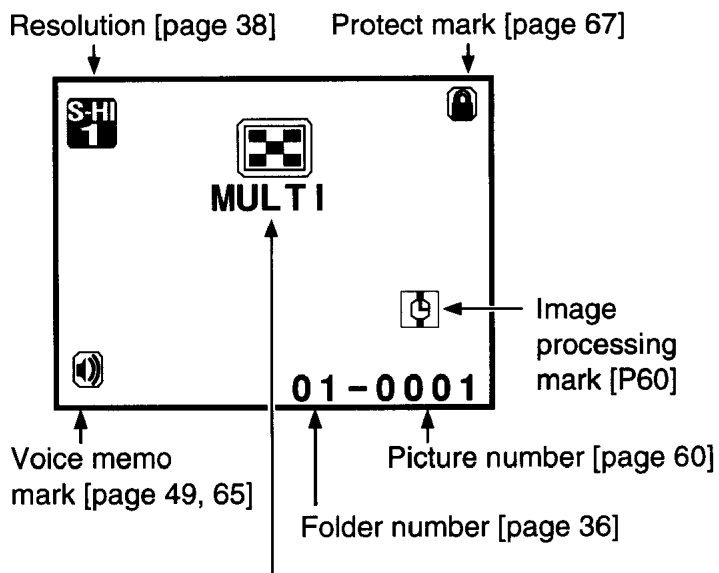


PARTS NAMES (LCD MONITOR SCREEN)

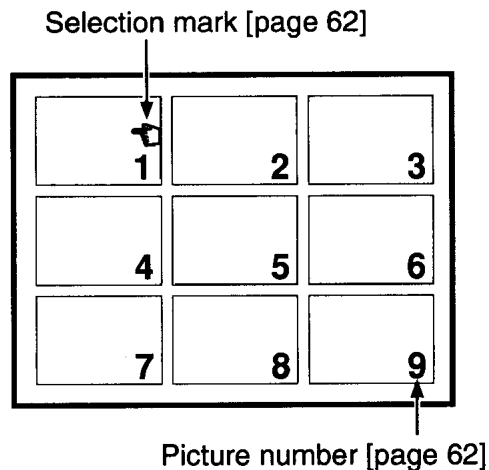
LCD Monitor Screen Indications (Playback)






All the indicators will not be displayed simultaneously as in the illustration.

[1 picture display]



[9 pictures multi-playback display]



Main Icons	Meaning
 MULT I	Multi-playback mode To select the 9 pictures multi-playback mode [page 61]
 MAGNIFY X2	Magnified playback mode To select the magnified playback mode [page 64]
 PROTECT	Protect mode To select or cancel the picture erasure protection mode [page 67]
 ERASE	Erase mode To select the picture erase mode [page 68, 69]
 SPECIAL	Special settings mode To set the Date/Time, to select the Date/Time display and for SmartMedia formatting [page 27, 72]

PARTS NAMES (LCD MONITOR SCREEN)

[page xx] refers to the page(s) where the concerned part function is explained in details.

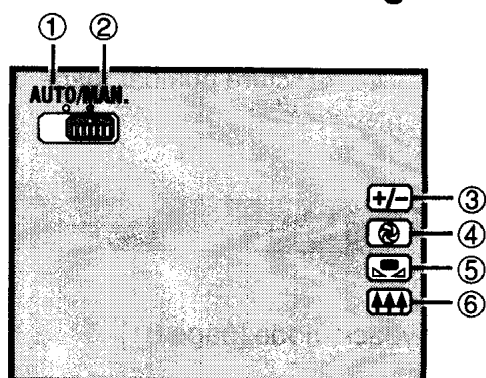
LCD Monitor Screen Indications (Shooting)

[Shooting mode screen]



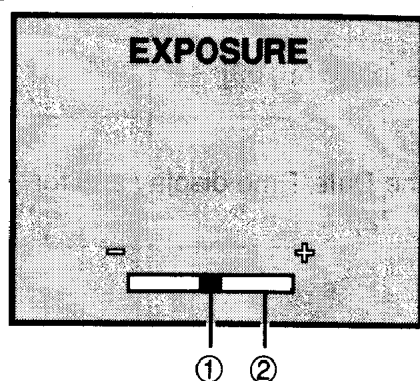
- ① Macro mode indication [page 46]
- ② Self-timer indication [page 50]
- ③ Voice memo indication [page 49]

[AUTO/MANUAL shooting selection screen]



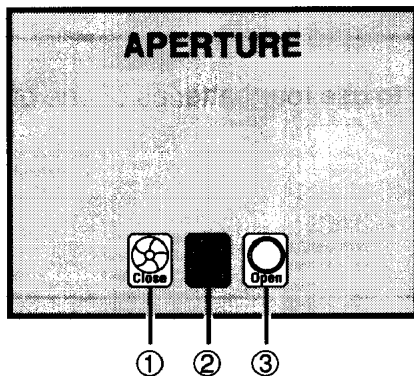
- ① AUTO shooting mode indication [page 39]
- ② MANUAL shooting mode indication [page 39]
- ③ Exposure correction indication [page 40, 51]
- ④ Aperture priority shooting indication [page 40, 53]
- ⑤ White balance correction indication [page 40, 55]
- ⑥ Digital zoom indication [page 40, 57]
(Only displayed when shooting in High resolution mode)

[Exposure correction screen]



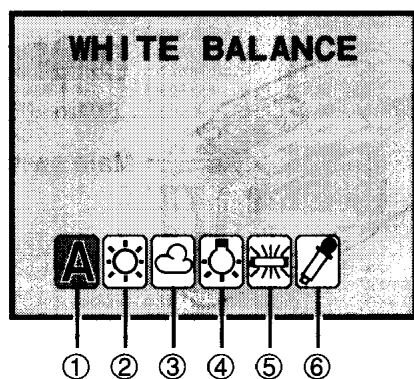
- ① Pointer [page 52]
- ② Exposure correction bar [page 52]

[Aperture priority shooting mode setup screen]



- ① Aperture priority shooting with closed iris mode icon [page 54]
- ② Programmed AE mode icon [page 54]
- ③ Aperture priority shooting with opened iris mode icon [page 54]

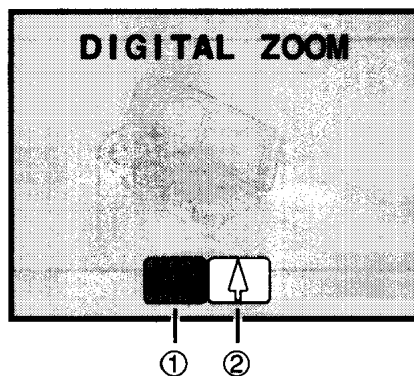
[White balance correction setup screen]



- ① Automatic white balance mode icon [page 56]
- ② Sunny day mode icon [page 56]
- ③ Cloudy day mode icon [page 56]
- ④ Incandescent light mode icon [page 56]
- ⑤ Fluorescent light mode icon [page 56]
- ⑥ Manual setup (Eye dropper) mode icon [page 56]

[Digital zoom setup screen]

(Only displayed when shooting in High resolution mode)



- ① Normal zoom shooting mode icon [page 58]
- ② Zoomed in shooting mode icon [page 58]

INSTALLING THE BATTERIES

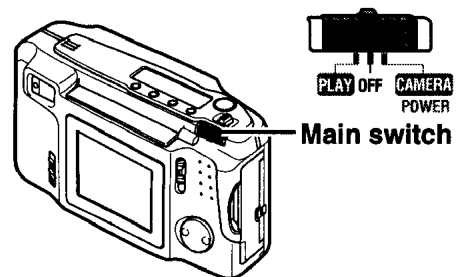
This camera operates on four (4) AA size batteries. Make sure to use four batteries of one of the types indicated below.

- Alkaline batteries
- Nickel metal hydride batteries
- NiCd rechargeable batteries

Caution

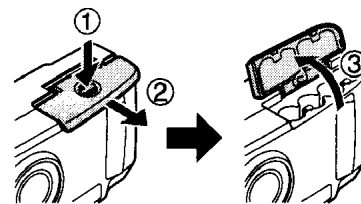
- Manganese batteries cannot be used, as they have a short battery life and may overheat causing damage to the camera.
- Before handling the batteries, see “Precautions concerning the batteries” on page 6.

- 1 Set the main switch to the “OFF” position.**



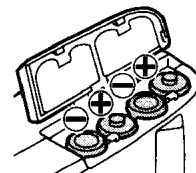
- 2 Open the batteries compartment cover on the bottom of the camera.**

- Slide the compartment cover button while pushing it down.



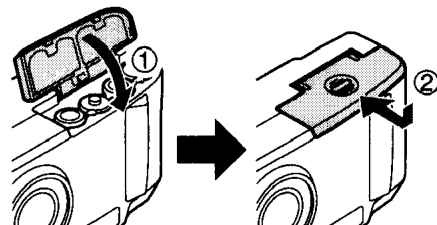
- 3 Insert the batteries in the batteries compartment.**

- Make sure the batteries polarity ((+), (-)) is as indicated.



- 4 Close the batteries compartment cover.**

- Slide the compartment cover in the direction of the arrow until a click is heard.



NOTE

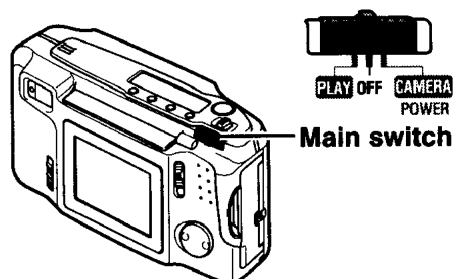
- Battery power is still being used even when the camera is turned off. It is recommended to remove the batteries from the camera when not using it. However, note that when the batteries are removed for a long period, the date and time settings may be cleared. When reinstalling recharged batteries, please check the date and time settings (see page 28).

INSTALLING AND REMOVING THE SmartMedia

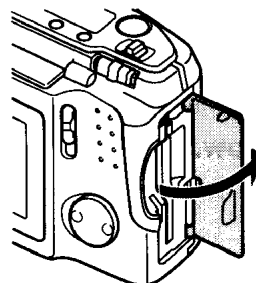
The supplied SmartMedia is a data storage media used in your digital camera, to store the pictures taken. Make sure to install the SmartMedia in the digital camera before taking pictures. For more information on the SmartMedia, see "USING THE SmartMedia" on page 71.

Installing the SmartMedia

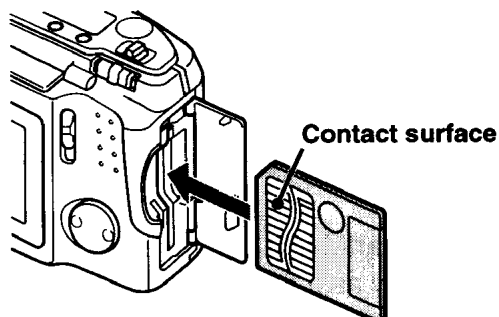
- 1** Set the main switch to the "OFF" position.



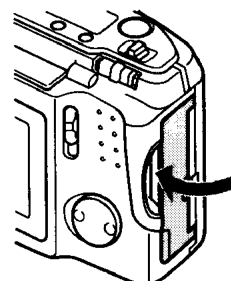
- 2** Make sure the power is turned off, then open the SmartMedia cover on the side of the camera.



- 3** Insert the SmartMedia.
- Make sure the contact surface is oriented as indicated by the illustration.
 - Insert fully.



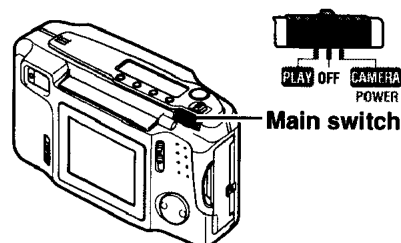
- 4** Close the SmartMedia cover.



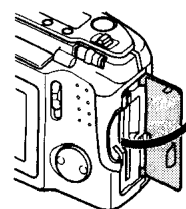
INSTALLING AND REMOVING THE SmartMedia

Removing the SmartMedia

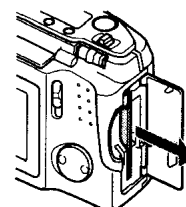
- 1** Set the main switch to the "OFF" position.



- 2** Make sure the power is turned off, then open the SmartMedia cover on the side of the camera.



- 3** Pull the SmartMedia out in the direction of the arrow.



- 4** Close the SmartMedia cover.
-

NOTE

- For more information on how many pictures can be saved on the SmartMedia, please refer to page 32.
- The SmartMedia can be used with a floppy disk adaptor (FlashPath: FLP-F1EX), it can be used as easily as a floppy in any PC/AT compatible computer with a 3.5 floppy disk drive. Or, if the SmartMedia is used in combination with a commercially-available PC card adaptor, it can then be used as a PC card conforming to the PC Card Standard-ATA. Be sure to only use a 3.3 V PC card adaptor.

HELP



If **NO CARD** is displayed

- If trying to playback pictures when the SmartMedia is not installed in the camera, the message "NO CARD" will be displayed on the LCD monitor screen. Before using the camera, make sure the SmartMedia is correctly installed.



If **PROTECTED** is displayed

- When a write-protect sticker is attached to the write-protect area, the Mis-recording protection function is active (see page 71), and recording (shooting) and/or erasure are not possible. If trying to record images while the Mis-recording protection function is on, the message "PROTECTED" will be displayed on the LCD monitor screen. In order to use the SmartMedia to record new pictures, remove the write-protect sticker.

TURNING THE POWER ON/OFF

TURNING THE POWER ON

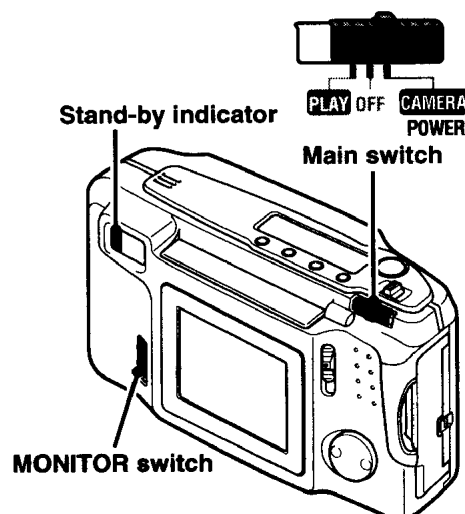
Follow the steps indicated below when taking pictures or playing back on the LCD monitor screen the pictures already taken.

To take pictures

- 1** Remove the lens cap.
- 2** Set the main switch to the “CAMERA” position.

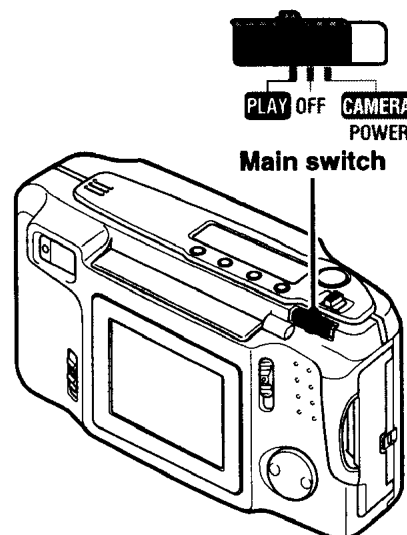
- The power is turned on.
- The lens will move forward.
- The stand-by indicator lights in green.
- If the MONITOR switch is set to the “ON” position, an image appears on the LCD monitor screen.

ON: When using the LCD monitor screen
OFF: When not using the LCD monitor screen



To playback pictures

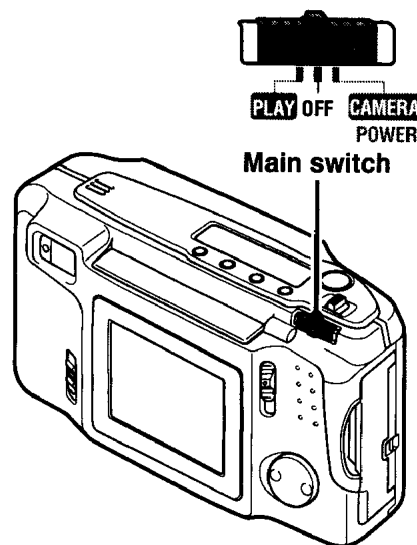
- 1** Set the main switch to the “PLAY” position.
- The power is turned on.
 - If the lens is extended, it will retract automatically.
 - A playback picture appears on the LCD monitor screen.



TURNING THE POWER ON/OFF

TURNING THE POWER OFF

- 1** Set the main switch to the “OFF” position.
 - The power is turned off.
 - If the lens is extended, it will retract automatically.

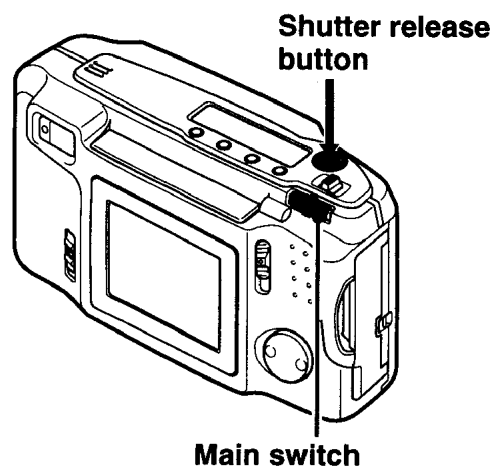


TURNING THE POWER ON WHEN THE POWER SAVE FUNCTION IS ACTIVE

In order to save the batteries power, the power save function will automatically turn off the power after one minute in camera mode or five minutes in picture playback mode, if the camera is left on and is not used.

To restore power to continue taking pictures

- 1** Press the shutter release button once, or set the main switch to the “OFF” position once, then back to the “CAMERA” position.



To restore power to continue playing back pictures

- 1** Set the main switch to “OFF” position once, then back to the “PLAY” position.

NOTE

- When using the AC adaptor (sold separately), the power save function will become active after about 30 minutes of inactivity. Also, when using batteries power and the camera is connected to a personal computer, the power save function will become active after about five minutes of inactivity.
- When the camera is connected to a personal computer, you can set the power save function delay using the computer.

SETTING THE DATE AND TIME

The camera will record the date and time a picture is taken along with the image data. Then at playback, you can display the picture date and time. Before taking pictures, make sure the correct date and time are set.

Method to set the date and time

For detailed steps, refer to the next page.

Set to the playback mode.



Display the [SPECIAL] indication.



Display [CLOCK SET] indication.

- The actual date and time settings are displayed.



Set on/off the picture date and time display.



Set the desired date display format.



Set the date Year, Month, Day.

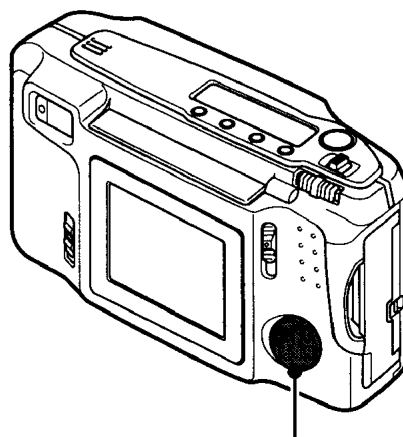


Set the time Hours, Minutes.



Press SET of the MODE button.

- Setup finished.



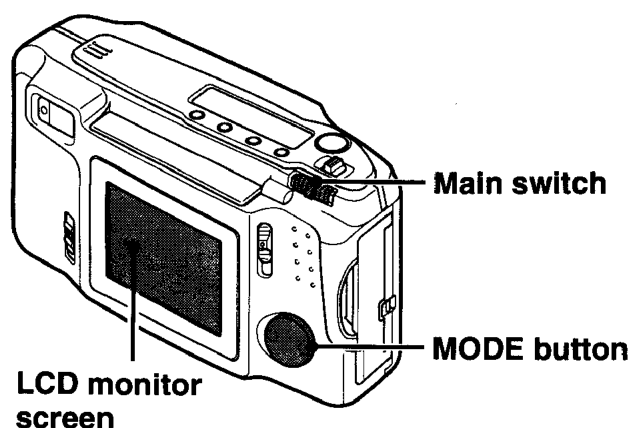
Using the MODE button:

Depending on where the button is pressed, the action corresponding to the **MODE**, **SET**, **◀** or **▶** is carried out.

NOTE

- If the date and time are not set, they will not be recorded when a picture is taken. During playback, [— —] will be displayed, even if the picture date and time display is set to on.
- Under normal conditions, while the batteries are replaced an internal battery will maintain the date and time settings. However, depending on the batteries charge and conditions of use, the settings may be lost and it is recommended to check that the date and time settings are still correct after having replaced the camera batteries (follow steps 1 to 4, on page 27).

SETTING THE DATE AND TIME



Example: To set the clock to August 28, 1999 at 7:30 PM

1 Set the main switch to the "PLAY" position.

- The power is turned on.



2 Press MODE of the MODE button.

- [SPECIAL] is displayed on the LCD monitor screen.
- Each time MODE is pressed, the indication switches as following (when pictures are straged).

No indication

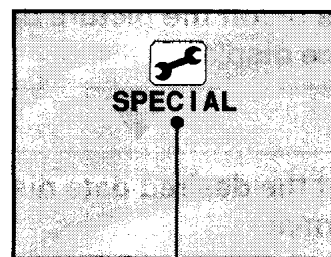
[MULTI] : Multi-playback mode

[MAGNIFY] : Magnified playback mode

[PROTECT] : Protect mode

[ERASE] : Erase mode

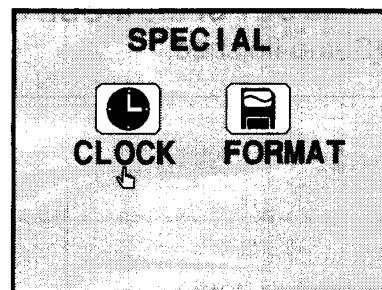
[SPECIAL] : Special settings mode



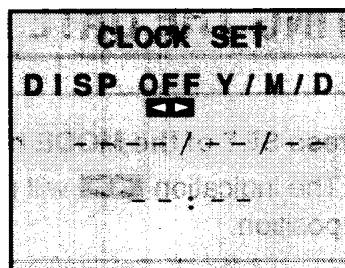
[SPECIAL] indication

3 Press SET of the MODE button.

- [CLOCK] and [FORMAT] are displayed on the LCD monitor screen.



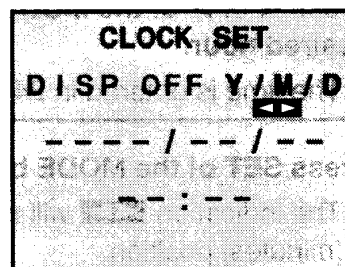
- 4 Press SET of the MODE button.**
- [CLOCK SET] is displayed.
 - The actual date and time settings are displayed when the clock has been set.
 - Press the MODE of MODE button again to erase the [CLOCK SET].



- 5 Press ◀ or ▶ of the MODE button to set on/off the picture date and time display when shooting.**

DISP ON:	The picture date and time are displayed.
DISP OFF:	The picture date and time are not displayed.

- 6 Press SET of the MODE button.**
- The indication ▶◀ will move to the [Y/M/D] position.



- 7 Press ◀ or ▶ of the MODE button to set the desired date display format.**

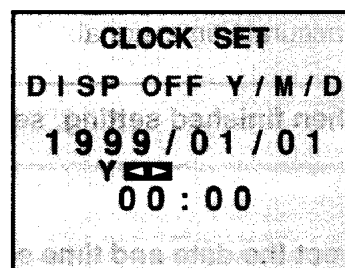
- Each time the ▶ is pressed, the format mode switches as indicated below.

[Y/M/D] :	Year/Month/Day format display
[M/D/Y] :	Month/Day/Year format display
[D/M/Y] :	Day/Month/Year format display

- Press ◀ to change in the reverse order.

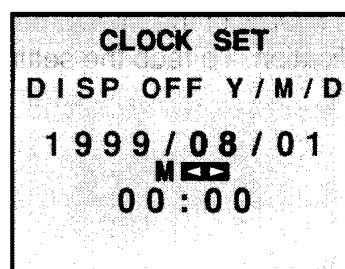
- 8 Press SET of the MODE button.**
- The indication ▶◀ will move to the [year] position.

- 9 Press ◀ or ▶ of the MODE button to set the desired year.**
- Press ◀ to decrease or ▶ to increase the year displayed.



- 10 Press SET of the MODE button.**
- The indication ▶◀ will move to the [month] position.

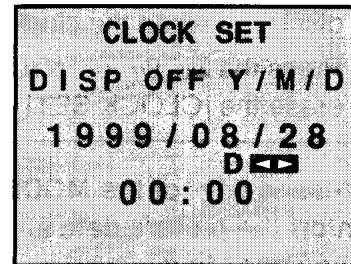
- 11 Press ◀ or ▶ of the MODE button to set the desired month.**



SETTING THE DATE AND TIME

12 Press SET of the MODE button.

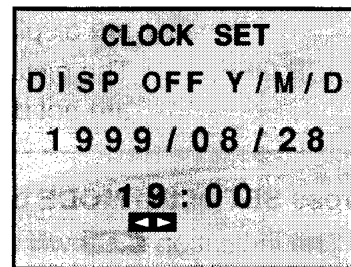
- The indication  will move to the [day] position.



13 Press ◀ or ▶ of the MODE button to set the desired day.

14 Press SET of the MODE button.

- The indication  will move to the [hour] position.

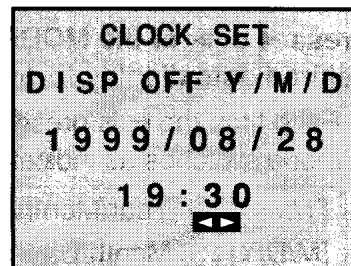


15 Press ◀ or ▶ of the MODE button to set the desired hour.

- The time is entered in 24-hour format.

16 Press SET of the MODE button.

- The indication  will move to the [minutes] position.



17 Press ◀ or ▶ of the MODE button to set the desired minutes.

18 Press SET of the MODE button.

- The setting display is erased, and the clock will start.
- For accurate clock setting, press SET together with a time broadcast signal or other accurate time signal.

■ When finished setting, set the main switch to the “OFF” position.

NOTE

To correct the date and time settings.





- Follow steps 1 to 4, press SET of the MODE button to select the setting to correct. Press ◀ or ▶ of the MODE button to correct the displayed setting. To finish the settings, press SET.
- Press MODE of the MODE button to cancel the Date and Time setting mode without any modification. To redo the setting, follow the steps from 2.

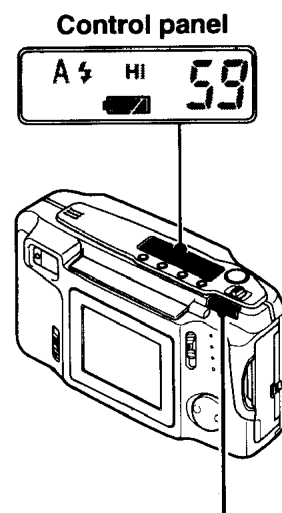
BATTERIES REMAINING CHARGE INDICATION

When using the alkaline batteries, the batteries remaining charge can be checked on the LCD monitor screen. Make sure to check this indicator before taking a picture.

1 Set the main switch to the “PLAY” or “CAMERA” position.

- The batteries remaining charge indication is displayed on the control panel.

Indication	Meaning
	When the remaining charge is from full to about 1/4 full.
	When the remaining charge is from 1/2 to less than 1/4 full.
	Replace the batteries. It will soon be impossible to take or to play back pictures. The remaining charge is not sufficient to download the pictures to a computer using the computer connecting cable.
 (flashing)	The batteries are dead and it is not possible to take pictures. Replace the batteries.



Main switch



- Depending on the conditions of use of the camera or the environmental conditions (temperature, etc.) the remaining charge indication may vary and it can only be used as a general indication of the remaining charge level.
- The power available from the different types of AA batteries is as indicated below. Nickel hydride batteries will give the most power, then Alkaline batteries, then NiCd batteries. However, the power available may vary depending on the batteries brand.
- Depending on the conditions of use of the camera (such as the number of times the flash is used, the use of the LCD monitor screen) or the environmental conditions (temperature below 10°C) the number of pictures that can be taken on a set of fully charged batteries will vary greatly.

NOTE

- The batteries remaining charge indicator will give an accurate indication of the remaining charge only when the alkaline batteries are used.
- The power available may vary, even when using the same type of batteries, depending on the batteries brand.
- When taking your camera on a trip or to a wedding, for example, or if it is used in cold weather, it is recommended to keep spare batteries on hand.

HELP

If the LCD monitor screen goes off suddenly

- When taking pictures using the LCD monitor screen, when the batteries charge is about half full, the LCD monitor screen may turn off momentarily. This is to allow a quick recharge of the flash. When the flash has been recharged, the LCD monitor screen will come back on automatically.

SmartMedia STATUS INDICATOR AND NUMBER OF PICTURES THAT CAN BE TAKEN

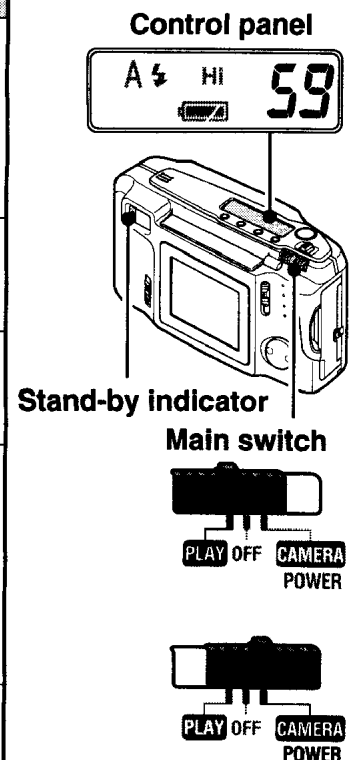
The SmartMedia is a data storage media used in your digital camera, to store the pictures taken. If a SmartMedia is not loaded into the camera, taking pictures or pictures playback will not be possible. If the SmartMedia is full, taking pictures will not be possible. Make sure to check the status of the SmartMedia in the digital camera before taking pictures.

Checking the SmartMedia status

1 Set the main switch to the "PLAY" or "CAMERA" position.

- The SmartMedia status is displayed on the control panel.

SmartMedia status indicators	Meaning
59	Number of pictures that can be taken. This number indicates the remaining number of pictures that can be taken according to the resolution setting displayed to the left. (See page 32.)
- - -	The SmartMedia cannot be read. Format the SmartMedia. (See page 72.)
- -	The SmartMedia is not loaded. (See page 22.)
P - -	A write-protect sticker is attached to the write-protect area of the SmartMedia. Recording, erasing and SmartMedia formatting will not be possible. (Mis-recording protection function) (See page 71.)
00	The SmartMedia is full. Recording (shooting) is no more possible. (See page 32.) The stand-by indicator in the viewfinder lights in red.



About the Number of Pictures that Can Be Taken

The number of pictures that can be recorded on the supplied SmartMedia card depends on the pictures resolution (see page 38) and the voice memo (see page 49) recordings. The table below gives the standard numbers of pictures that can be taken.

Shooting	Resolution	Number of pictures that can be taken (on a 4 MB SmartMedia)
Still image shooting	Super-High resolution mode 1 [S-Hi1]	9 pictures (8 with voice memo)
	Super-High resolution mode 2 [S-Hi2]	18 pictures (15 with voice memo)
	High resolution mode [Hi]	60 pictures (41 with voice memo)
Sequential shot	High resolution mode [Hi]	60 pictures (up to 10 pictures at 0.5 sec. interval for one set shooting.)

- The displayed number of pictures that can be taken is calculated according to the available memory. The displayed number may decrease of one picture or more at the time when a picture is taken due to the way the available memory is calculated.
- Each voice memo memory usage is equivalent to approximately half a picture taken in High resolution mode.
- Depending on the type of pictures taken, you may be able to take a few more pictures than the numbers indicated above.
- When the displayed remaining number of pictures that can be taken is [00], you cannot take any more pictures. To take more pictures either install a new SmartMedia (see page 22), or save the pictures (see page 34) then erase them (see page 68) from the SmartMedia.
- When the displayed remaining number of pictures that can be taken is [00], it may be possible to take a few more pictures by selecting a lower resolution setting.

USING THE LCD MONITOR SCREEN SOLAR PANEL FUNCTION

When shooting outside, if the ambient lighting is strong enough, you can turn off the LCD monitor screen backlight in order to use the external light source to view the image on the LCD monitor screen. This will save batteries power and will permit to view the image on the LCD monitor screen even when in an extremely bright environment.

The LCD monitor screen solar panel function can be used during shooting or during playback.

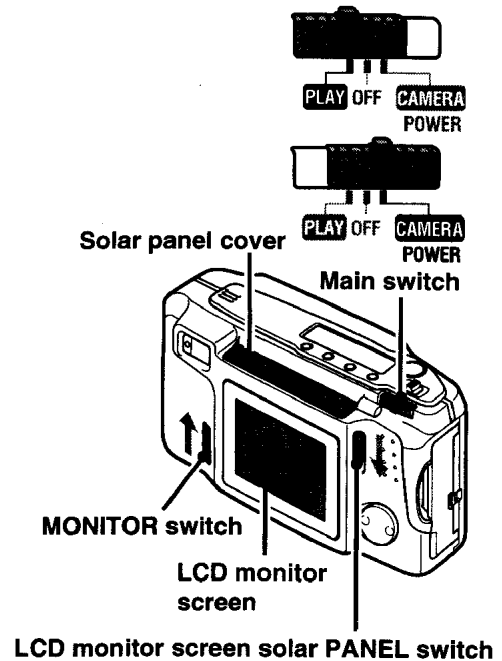
1 Set the main switch to the “PLAY” or “CAMERA” position.

- The power is turned on.

2 If the main switch is set to the “CAMERA” position, then set the MONITOR switch to the “ON” position.

3 Set the solar PANEL switch to the “OPEN” position.

- The solar panel cover will open.
- The LCD monitor screen backlight is turned off.
- If the image on the LCD monitor screen cannot be seen easily, return the solar PANEL switch to the “CLOSE” position. (The backlight is turned back on.)



-
- When not using the LCD monitor screen solar panel function, set the solar PANEL switch to the “CLOSE” position.

NOTE

- When using the LCD monitor screen solar panel function, the brightness of the screen will vary according to the camera orientation and surrounding brightness.
- When the LCD monitor screen solar PANEL switch is set to the “OPEN” position, the backlight may be visible from the top of the unit. This is not a malfunction.

CONCERNING PICTURE DATA STORAGE

Saving the Pictures Taken with your Digital Camera

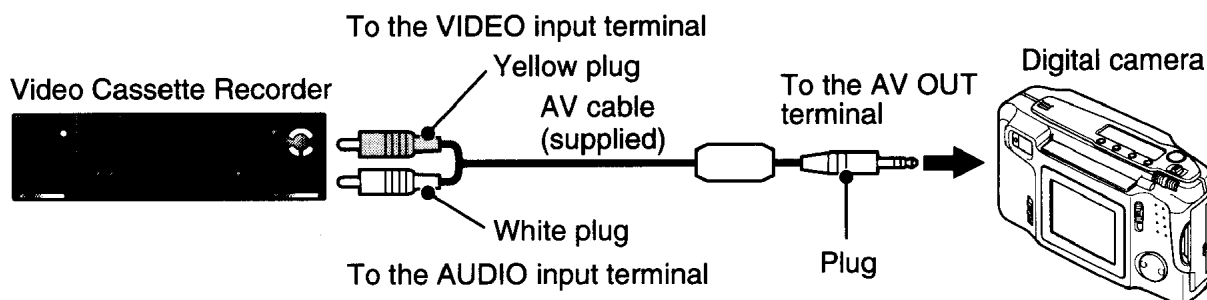
• Saving the pictures to a computer

- Requires: Computer connecting cable, commercially available personal computer
- Advantages: The pictures are saved as data on the computer hard disk, they can then be processed or edited, sent over a network, etc.
- Connections: See page 74.

• Recording the Pictures onto Video Tape

- Requires: Commercially available Video Cassette Recorder
- Advantages: You can save your pictures even if you do not have a computer. You can then play them back on your TV set.
- Points to remember: Once saved to video tape, the pictures cannot be edited digitally. The pictures will be saved to video tape as a PAL format signal.

Connections:



- To avoid damaging the camera connector, be very careful when connecting/disconnecting the cable.
- The sound output from the camera is monaural. If connecting it to a stereo VCR be sure to use the audio left channel input connector (white).
- If the VCR is equipped with an EURO-AV type audio/video input terminal use the supplied SCART adaptor.

Method:

VCR

- 1** Load a video tape with erasure prevention tab.
- 2** Press the input mode button to select the external input mode.
- 3** Set the recording mode (tape speed).
- 4** Set to recording pause mode (press the recording button, then the pause button).

Camera

- 5** Set to playback mode.

VCR

- 6** When the desired picture is displayed, start recording (press the recording button or the pause button).

■ When finished recording, stop the VCR.

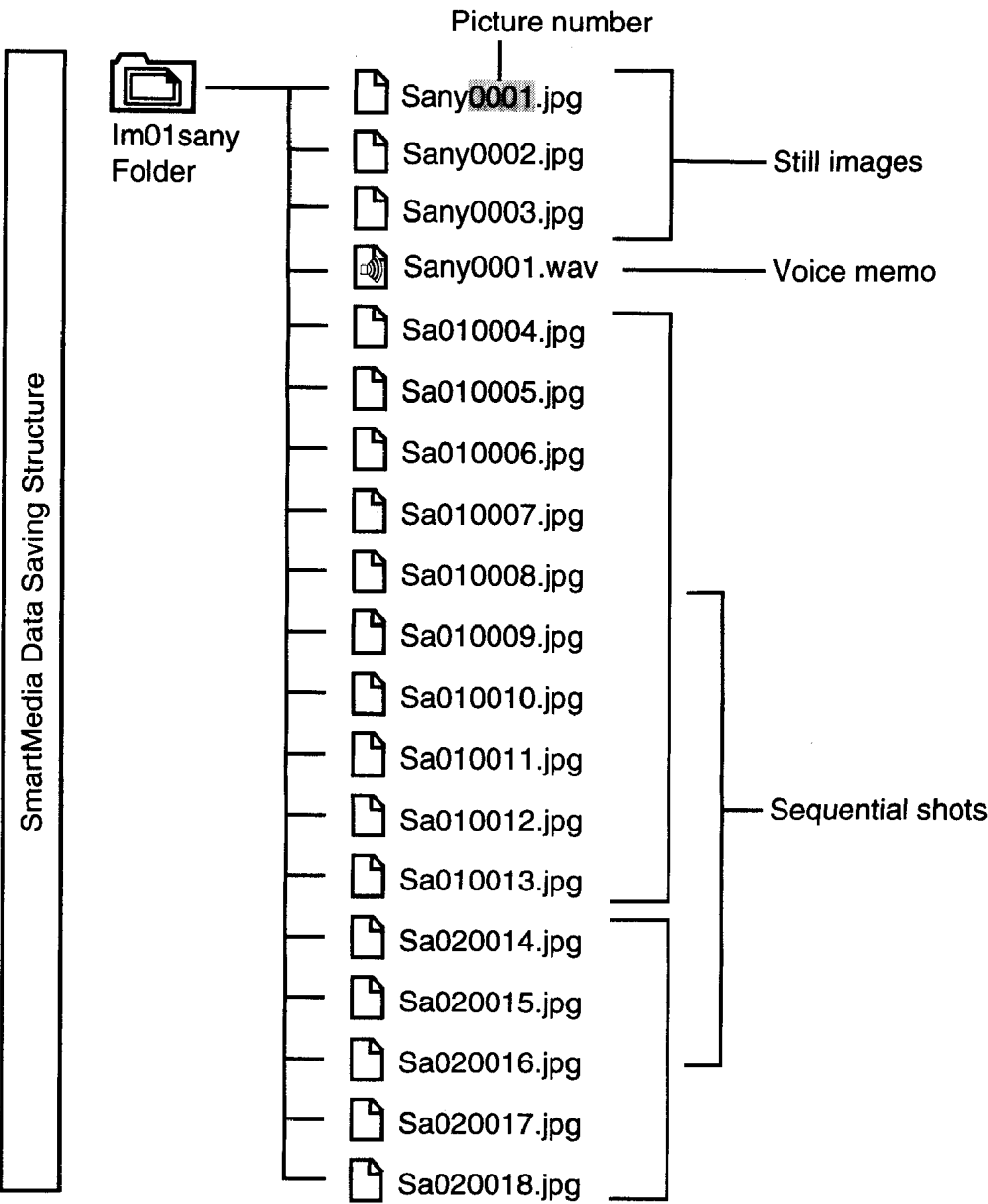
CONCERNING PICTURE DATA STORAGE

SmartMedia Data Saving Structure

Folder and file names

This section explains how the pictures data files are organized in the SmartMedia. This information is only necessary when accessing the SmartMedia to erase image and (or) voice memo data files, or when accessing the SmartMedia using a personal computer.

When taking pictures, the still images and voice memos data files, and the sequential pictures images files are saved on the SmartMedia in folder Im01sany.



File formats

The files for the data recorded on the SmartMedia are named according to the following conventions.

Still images data

Data format: JPEG format (Exif Ver 2.1 compliant)
File name structure: SANY + sequential number + .jpg extension
SANYnnnn.jpg
nnnn represents a sequential number assigned automatically.

Voice memos data

Data format: WAVE format
File name structure: They are assigned the same file name as the pictures files they correspond to, with the .wav extension
SANYnnnn.wav

Sequential shots data

Data format: JPEG format (Exif Ver 2.1 compliant)
File name structure: SA + sequential shot number + sequential number + .jpg extension
SAxxyyyy.jpg
xx represents a 2 digits sequential number for a sequential shot.
yyyy represents a 4 digits sequential number for each picture.

NOTE

Do not modify the folders and data names (or structure) on the SmartMedia

- The digital camera follows the preset saving and retrieving structure mentioned above. If the folders and/or data names and arrangement are modified by accessing the SmartMedia using a floppy disk adaptor (FlashPath: FLP-F1EX) or other adaptor, it will be impossible to playback the data using the camera, and it may not operate properly.
- When file number xxxx9999 is reached in folder Im01sany, a new folder named Im02sany is created. New folders are created automatically up to number Im99sany.
- The folder number "nn" from folder Imnnsany will be displayed on the LCD monitor screen (see page 18). (If viewing pictures taken with a different digital camera, two letters may be displayed instead of the folder number.)

TAKING PICTURES PROCEDURE

The steps below indicate the procedure main steps.
Refer to the page indicated for detailed instructions.

Set the resolution (Picture quality) [page 38]



Set to Automatic or Manual shooting mode [page 39]

● Automatic shooting mode

- The shooting mode is automatically set by the camera [page 39]

● Manual shooting mode

Follow the procedures indicated below to set the camera manually

- Exposure correction [page 51]
- Aperture priority shooting [page 53]
- White balance correction [page 55]
- Digital zoom [page 57]



Capture the subject

- Holding the camera [page 41]
- Using the viewfinder [page 42]
- Using the LCD monitor screen [page 43]



Take the picture

- Still image mode [page 42, 43]
 - Using the macro mode [page 46]
 - Using the flash [page 47]
 - Recording a voice memo [page 49]
 - Using the self-timer [page 50]
 - Using the zoom [page 45, 57]
- Sequential shot mode [page 59]
 - Using the macro mode [page 46]
 - Using the self-timer [page 50]
 - Using the zoom [page 45, 57]

SETTING THE RESOLUTION (PICTURE QUALITY)

When taking pictures, you can select Super-High resolution mode 1 (definition of 1,280 x 960 pixels with a low compression ratio), Super-High resolution mode 2 (definition of 1,280 x 960 pixels with a high compression ratio) or High resolution mode (definition of 640 x 480 pixels). Compared to High resolution mode, in Super-High resolution mode, the number of pictures that can be taken is much smaller but the pictures will be of very high quality. Please set the resolution mode according to the desired result.

In sequential shot mode the resolution is preset to High resolution mode. (The other resolution modes cannot be used.)

Setting the Resolution

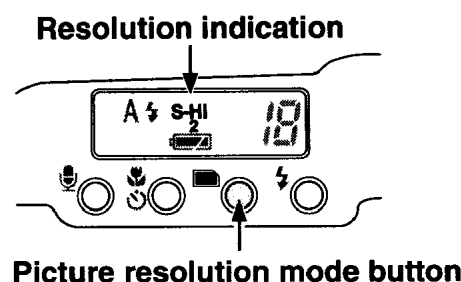
- 1 Set the Main switch to the "CAMERA" position.

- The power is turned on.



- 2 Press the Picture resolution mode button to select the desired resolution (picture quality).

- Each time the button is pressed, the resolutions and the sequential shot mode setting switches as indicated below.



S-HI ₂	: Super-High resolution mode 2 ...	for very high quality pictures
HI	: High resolution mode	in this mode it is possible to take approximately 6 times more pictures than in the Super-high resolution mode 1
	: Sequential shot mode	Sequential shot in High resolution mode is possible.
S-HI ₁	: Super-High resolution mode 1 ...	for pictures of the best possible quality

NOTE:

- This camera can take 9 pictures at the Super-high resolution mode 1, 18 pictures at the Super-high resolution mode 2 and 60 pictures at the High resolution mode (on a 4 MB SmartMedia). However, if the voice memo function (see page 49) is used, each voice memo will count as about 1/2 high resolution picture and the total count of pictures that can be taken will be less than indicated above. For the number of pictures that can be taken, depending on the voice memo function, see page 32.
- The set picture resolution mode will stay selected until changed, even after the power is turned off, or the batteries are replaced.

CONCERNING THE AUTOMATIC AND MANUAL SHOOTING MODES

Using the automatic shooting mode, you can take pictures under normal conditions, letting the camera do the adjustments indicated below. If you wish to set the camera manually according to each picture conditions, use the manual shooting mode. The manual shooting mode settings (page 51 – 58) are preserved even after the camera power is turned off or the automatic shooting mode is selected. Therefore, you can use a combination of the two modes, using the automatic shooting mode under normal conditions, and switching to manual shooting mode for special conditions photography.

Automatic shooting mode settings

Exposure correction	No exposure correction
Aperture priority shooting mode	Programmed AE mode shooting
White balance correction	Automatic
Digital zoom (Only in High resolution mode)	No digital zoom

Manual shooting mode settings

Exposure correction	±3 f-stops increments exposure correction
Aperture priority shooting mode	AE shooting with the iris closed or opened
White balance correction	Sunny day, cloudy day, incandescent light, fluorescent light, manual (eye dropper) (light source specific) selectable
Digital zoom (Only in High resolution mode)	2x digital zoom or no digital zoom

Automatic Shooting Mode Setup

1 Set the main switch to the “CAMERA” position.

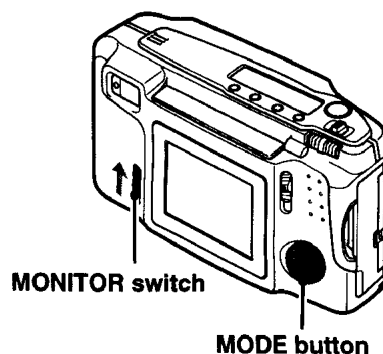
- The power is turned on, and the automatic shooting mode is selected.
- To shoot using the automatic mode, just start taking pictures.



To Set to Manual Shooting Mode, or to Confirm the Manual Settings

2 Set the MONITOR switch to the “ON” position.

- An image appears on the LCD monitor screen.
- Manual shooting mode can only be used with the LCD monitor screen turned on. If the LCD monitor screen is turned off (the MONITOR switch set to the “OFF” position), the shooting mode will return to automatic mode.



3 Press **MODE** of the **MODE** button.

- The AUTO/MANUAL indication is displayed on the LCD monitor screen.

AUTO:	Automatic shooting mode
MAN.:	Manual shooting mode

AUTO/MANUAL indication



4 Press **◀** or **▶** of the **MODE** button to select **MAN**.

- The manual shooting mode is set.
- The indications for the functions that have been set in manual mode are displayed.
(See page 19.)



To Display the Manual Shooting Mode Settings Screens

5 Press **MODE** of the **MODE** button to display the desired screen.

- Each time the button is pressed, the mode switches as indicated below.

[AUTO/MAN.]	
[EXPOSURE]	: Exposure correction mode setting screen (see page 51)
[APERTURE]	: Aperture priority shooting mode setting screen (see page 53)
[WHITE BALANCE]	: White balance correction setting screen (see page 55)
[DIGITAL ZOOM]	: Digital zoom setting screen (see page 57) (Only in High resolution mode)
No display	

- To cancel the setting screen display, press **SET** of the **MODE** button. To return to the display of the setting screens, press **MODE** of the **MODE** button one more time (step 5).
- The manual shooting mode settings are kept even after the main switch is set to the "OFF" or the "PLAY" position, while the shooting mode is returned to automatic mode. To return to manual shooting mode, repeat steps 3 and 4 above.

HINT

Easy switching between automatic and manual shooting modes

- After step 1 and 2, press **MODE** of the **MODE** button twice. (The **EXPOSURE** setting screen is displayed.) You can then take pictures in manual shooting mode, using all the settings previously entered. To continue taking pictures in automatic shooting mode, simply press **SET** of the **MODE** button, the setting screen is cancelled.

TAKING PICTURES

After having set your camera, you are now ready to take pictures. You can do so using the viewfinder or the LCD monitor screen. Please follow the methods described here for better pictures.

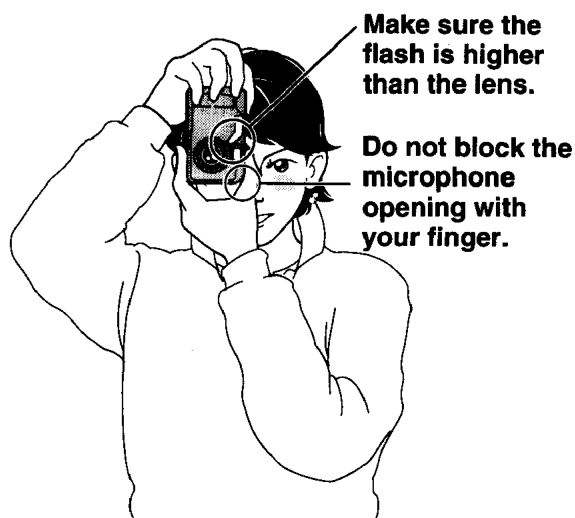
Holding the Camera

Hold the camera firmly by the finger pads, with both hands, arms tight along the body making sure the camera is stable.

Horizontal hold

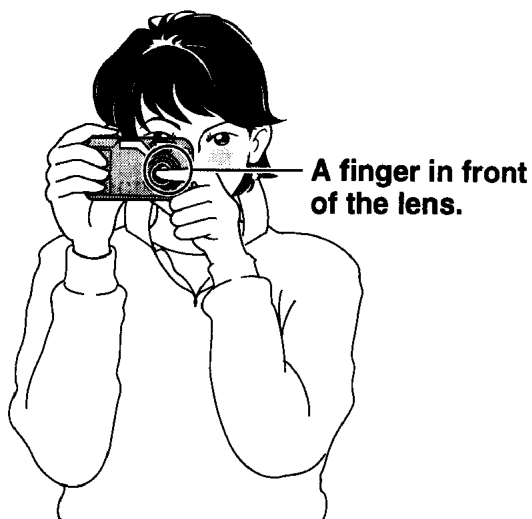


Vertical hold



Make sure that the flash or the lens are not blocked by a finger or the hand-strap.

Incorrect hold



NOTE

- When a picture is taken with the camera held vertically, the image played back on the LCD monitor screen or on a TV set will be shown on the side.

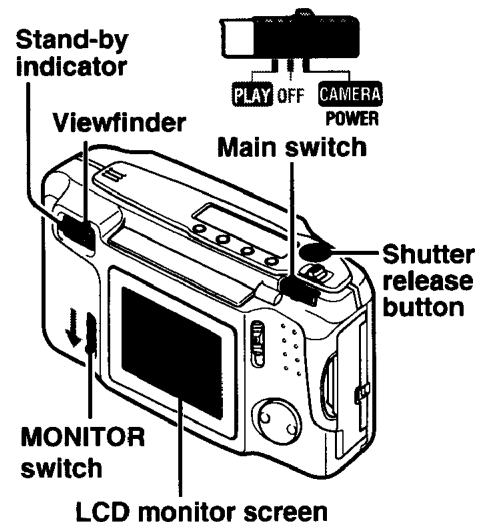
Taking Pictures Using the Viewfinder

Compose the desired picture by looking into the viewfinder. Compared to taking pictures using the LCD monitor screen this method saves the batteries power.

1 Remove the lens cap.

2 Set the main switch to the "CAMERA" position.

- The power is turned on.
- The lens will move forward.
- When the stand-by indicator lights in green, you are ready to take the picture.



4 Point the camera lens to the subject.

- If the subject is close to the camera (20 to 80 cm), then use the macro photography mode. (See "MACRO PHOTOGRAPHY" on page 46.)
- If the subject is too small (far), push the zoom switch to "T" side to enlarge it. (See "Using the Optical Zoom" on page 45.)

5 Look straight into the viewfinder and make sure the autofocus mark is on the subject.



6 Press the Shutter release button halfway (focus-lock).

- The autofocus function will lock the focus on the subject.



7 Slowly press the Shutter release button fully.

- The picture is taken.
- The stand-by indicator will flash in red while the picture is being written to the memory, another picture can only be taken when the stand-by indicator lights in green again.



■ When finished taking pictures, set the main switch to the "OFF" position.

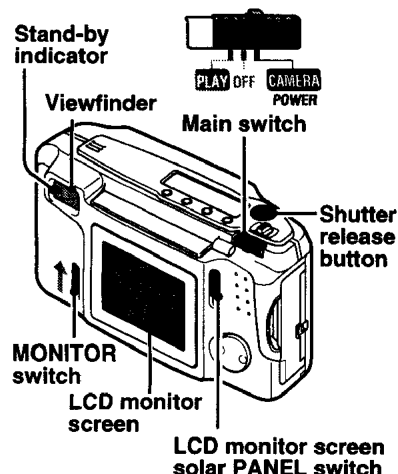
- After taking a picture, you can set the main switch to the "PLAY" position and view the pictures taken.

TAKING PICTURES

Taking Pictures Using the LCD Monitor Screen

This method allows you to check the exact composition of the picture.

- 1 Remove the lens cap.**
 - 2 Set the main switch to the “CAMERA” position.**
 - The power is turned on.
 - The lens will move forward.
 - When the stand-by indicator lights in green, you are ready to take the picture.
 - 3 Set the MONITOR switch to the “ON” position.**
 - An image appears on the LCD monitor screen.
-



- 4 Compose the desired picture by looking at the LCD monitor screen.**
 - If the subject is close to the camera (20 to 80 cm), then use the macro photography mode (see “MACRO PHOTOGRAPHY” on page 46).
 - If the subject is too small (far), use the optical zoom function (see page 45) and/or the digital zoom function (see page 57) to enlarge it.
 - Depending on the conditions, you can also use the exposure correction function (see page 51), the aperture priority shooting function (see page 53) or the white balance correction function (see page 55).
-

- 5 Press the Shutter release button halfway (focus-lock).**
 - The autofocus function will lock the focus on the subject.
 - If the focus is not locked as desired, release the Shutter release button, then press it again halfway.



- 6 Slowly press the Shutter release button fully.**
 - The picture is taken.
 - The stand-by indicator will flash in red while the picture is being written to the memory, another picture can only be taken when the stand-by indicator lights in green again.



-
- **When finished taking pictures, set the main switch to the “OFF” position.**
 - After taking a picture, you can set the main switch to the “PLAY” position and view the pictures taken.
-

NOTE

- This method uses the batteries power more quickly than when using the viewfinder to take pictures.
- You can save batteries power by using the LCD monitor screen solar panel function, see “USING THE LCD MONITOR SCREEN SOLAR PANEL FUNCTION” on page 33.

AUTOFOCUS

Notes About the Autofocus Function

Your camera's autofocus will work in almost all occasions, however, there are certain conditions that may cause the autofocus function not to work properly.

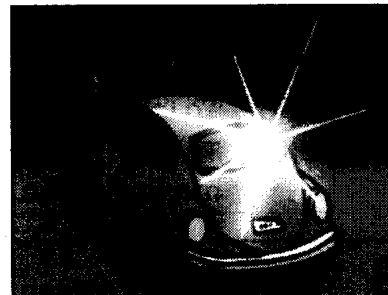
■ Conditions that may cause incorrect focus

The following examples are some of the situations where the autofocus function may not work properly.

Subjects with low contrast or very bright subjects at the centre of the picture

To take the picture:

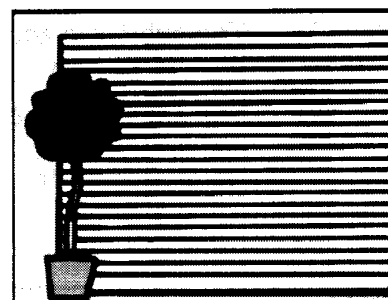
Use the focus-lock function to lock the focus on a subject with contrast at the same distance as the subject you wish to take the picture of, then without releasing the shutter release button, take the picture of the desired subject.



Subjects without vertical lines

To take the picture:

Use the focus-lock function to lock the focus on the subject while holding the camera vertically, then without releasing the shutter release button, turn the camera to the horizontal position and take the picture.



The following examples are some of the situations where the autofocus function may not focus at the desired distance.

Subjects at different distances

To take the picture:

Use the focus-lock function to lock the focus on a subject at the same distance as the subject you wish to take the picture of, then without releasing the shutter release button, take the picture of the desired subject. (Check the focus on the LCD monitor screen.)



Fast moving subjects

To take the picture:

Use the focus-lock function to lock the focus on a subject at the same distance as the subject you wish to take the picture of, then without releasing the shutter release button, take the picture of the desired subject.



USING THE ZOOM (OPTICAL ZOOM FUNCTION)

The subject can be enlarged (zoomed in) up to 3 times using the optical zoom lens.

The optical zoom can be used when taking pictures using the viewfinder or the LCD monitor screen.

1 Set the main switch to the “CAMERA” position.

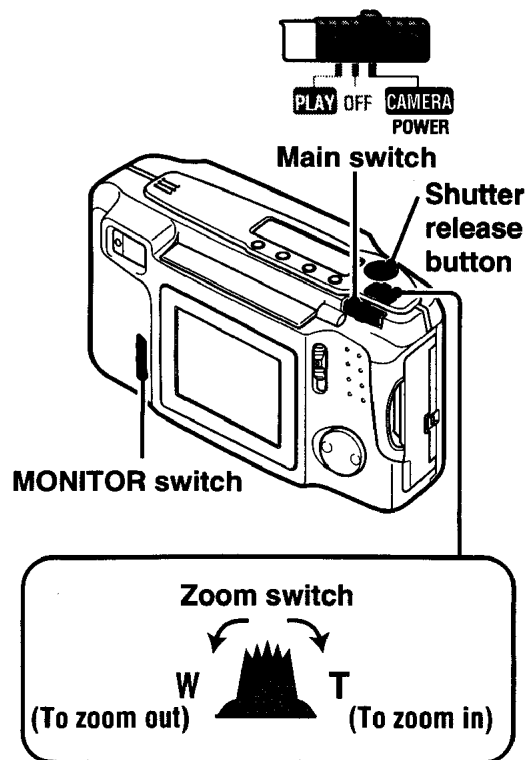
- The power is turned on.

2 Set the MONITOR switch to the desired position.

- | | |
|------|--|
| OFF: | To take pictures using the viewfinder. |
| ON: | To take pictures using the LCD monitor screen. |

3 Push the zoom switch to “T” or “W” side to compose the picture as desired.

- | | |
|----|--|
| T: | The subject is zoomed in (made up to 3 times bigger) |
| W: | The subject is zoomed out (made smaller) |



4 Take the picture.

- See steps 5 and 6 on page 43.

■ When finished taking pictures, set the main switch to the “OFF” position.

NOTE

- When using the LCD monitor screen to take pictures in High resolution mode, you can enlarge the subject even more by using the digital zoom function. (See “MANUAL SHOOTING MODE SETTINGS (DIGITAL ZOOM SETUP)” on page 57.)

MACRO PHOTOGRAPHY

When taking pictures at close range (20 – 80 cm) use the macro photography function.

1 Set the main switch to the “CAMERA” position.

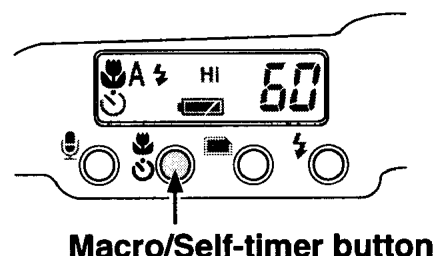
- The power is turned on.



2 Press the Macro/Self-timer button until the [🌻] indication is displayed flashing.

- Each time the button is pressed, the macro/self-timer mode switches as indicated below.

No display
[🌻] (flashing)
[⌚] (flashing)
[🌻] and [⌚] (flashing)

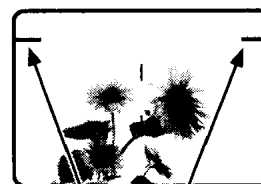


- For macro photography using the self-timer function, select the [🌻] and [⌚] indications.

3 Compose the picture.

- Due to viewfinder-lens relative disalignment, when a picture is taken at close range, only the lower area of what is seen in the viewfinder will be recorded. When taking a picture of a subject at about 20 cm from the lens, make sure it is in the area delimited by the close-up alignment correction marks.
- For macro photography, it is recommended to compose the image while viewing it on the LCD monitor screen. (See page 43.)
- When the subject is very small, you can also use the optical zoom function (see page 45) and/or the digital zoom function (see page 57) to enlarge it.
- When the LCD monitor screen is used for macro photography, the Macro mode indication [🌻] will be displayed.

[Viewfinder]



Close-up alignment correction marks

[LCD Monitor]



Macro mode indication

4 Take the picture.

- See steps 5 and 6 on page 43.
- After the picture has been taken, the macro mode is automatically cancelled. The Macro mode indication [🌻] is erased.

■ When finished taking pictures, set the main switch to the “OFF” position.

NOTE

- To avoid blurred pictures, it is recommended to use a tripod, or rest the camera on some stable surface.

FLASH

The flash can not only be used when the subject is dark, it is also useful to cancel shadows or in a backlight situation. The flash has four modes of operation (automatic flash mode, forced flash mode, flash off mode and red-eyes reduction mode), use a different mode according to the conditions of the picture taken. The flash range is 0.8 to 2.8 m (normal photography, wide angle), 0.8 m to 1.6 m (normal photography, telephoto) or 0.2 to 0.8 m (macro photography).

- The flash cannot be used in sequential shot mode.

Setting the Flash Operation Mode

- 1 Set the main switch to the “CAMERA” position.**

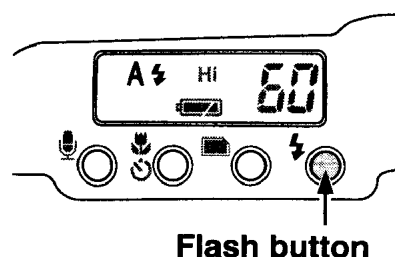
- The power is turned on.



- 2 Press the Flash button to select the desired mode.**

- Each time the button is pressed, the flash mode switches as indicated below.

[A⚡]:	Automatic flash mode
[⚡]:	Forced flash mode
[⊙]:	Flash off mode
[⚡⊙]:	Red-eyes reduction mode



NOTE

- The set flash mode will stay selected until changed, even after the power is turned off.
- In the sequential shot mode (see page 59), the flash will automatically be set to Flash off mode.

HELP

- While the flash is being charged, the stand-by indicator in the viewfinder will flash in red. During that time, a picture cannot be taken. Please wait until the stand-by indicator lights in green to take the next picture.

Automatic Flash Mode

- Use this setting under normal conditions. The camera will detect the subject brightness and light the flash only as required.

In a back-light situation, if the centre of the picture only is very dark, the automatic flash will operate in order to try to compensate.



Forced Flash Mode

- The flash will operate with every picture taken without depending on the subject brightness.

Use this setting when taking the picture in a bright place but the subject is in the shade, under backlight conditions, etc.



Subject in the shadow

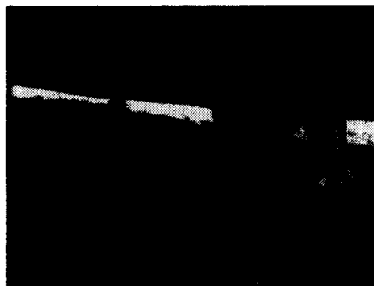


Backlight conditions

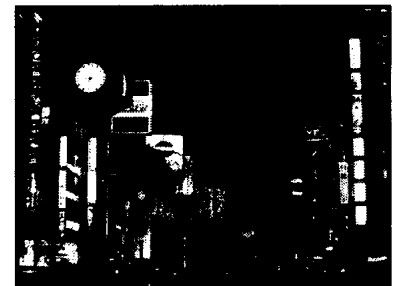
Flash Off Mode

- The flash will not light even under dark conditions.

Use this setting when taking a picture in a location where you may not use the flash, or when taking a night scene.



Location where the flash may not be used



Night scene

Red-Eyes Reduction Mode

- When taking pictures with the flash, this mode will reduce the common associated red-eyes effect. When the shutter release button is pressed, a pre-flash will light, then the picture with flash is taken. Depending on where the subject was looking when the pre-flash was on, the red-eyes effect will be reduced. For best results, it is recommended to ask the subject(s) to look at the camera when the pre-flash is on.
- When using the Red-eyes reduction mode, the flash will operate depending on the subject brightness.



HELP

- When taking a picture in the dark without the flash, the camera will use the slowest shutter speed of up to 1/2 sec. In order to avoid blurred pictures, use a tripod or other to stabilise the camera. If the subject moves, the picture will not be clear.

VOICE MEMO

You can record approximately 4 seconds of sound when taking a picture.

This is called a "voice memo". You can also add a voice memo to a picture previously recorded (see "SOUND AFTER-RECORDING" on page 65).

- A voice memo cannot be recorded in sequential shot mode.

1 Set the main switch to the "CAMERA" position.

- The power is turned on.

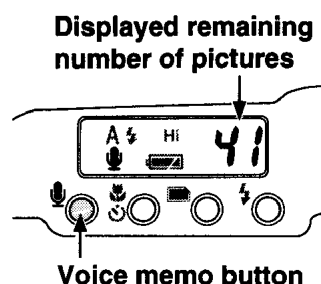


2 Press the Voice memo button to display the voice memo indication [🗣️].

- Each time the button is pressed, the voice memo mode switches as indicated below.

No display:	Voice memo function off
[🗣️]:	Voice memo function on

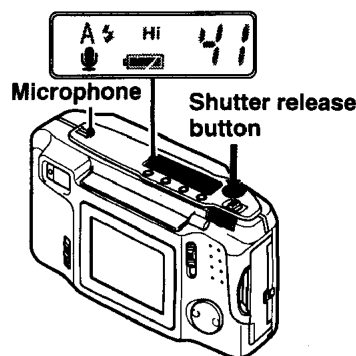
- The displayed remaining number of pictures will change to indicate how many pictures can be taken at the selected resolution and using the voice memo function.
- When the LCD monitor screen is used, the Voice memo indication [🗣️] will be displayed.



Voice memo indication

3 Press on the Shutter release button, then talk into the microphone.

- The voice memo indicator will flash for about 4 seconds, while the sound is being recorded.
- After the sound has been recorded, the voice memo function is automatically cancelled. ([🗣️] indication is erased.)



■ When finished taking pictures, set the main switch to the "OFF" position.

NOTE

- The memory usage of the voice memo for each picture is equivalent to about 1/2 high resolution picture or less.
- After a picture has been taken with the voice memo function on, the sound part only cannot be erased, when the picture is erased, the corresponding sound is also erased.
- To listen the recorded voice memo, after connecting to a TV, press SET of the MODE button. (See "Playing Back the Sound" on page 63.)

SELF-TIMER

The self-timer function will take the picture automatically 10 seconds after the Shutter release button is pressed.

1 Set the main switch to the “CAMERA” position.

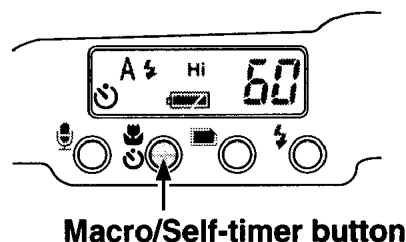
- The power is turned on.



2 Press the Macro/Self-timer button until the [⏻] indication is displayed flashing.

- Each time the button is pressed, the macro/self-timer mode switches as indicated below.

No display:	Macro/Self-timer function off (normal mode for taking pictures)
[📷] (flashing):	Macro photography (see page 46)
[⏻] (flashing):	Self-timer
[📷] and [⏻] (flashing):	Macro photography with self-timer (see page 46)



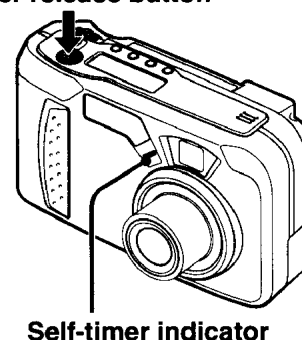
Self-timer indication

- When the LCD monitor screen is used, the Self-timer indication [⏻] will be displayed.

3 Press on the Shutter release button.

- The Self-timer indication will light for about 7 seconds, flash for 3 seconds then the picture is taken.
- After the picture has been taken, the self-timer is automatically cancelled. ([⏻] indication is erased.)
- If you press on the Shutter release button before the picture has been taken while using the self-timer function, that will interrupt it.
- To cancel the self-timer function, press the Macro/Self-timer button until the Self-timer [⏻] indication is not displayed anymore.

Shutter release button



■ When finished taking pictures, set the main switch to the “OFF” position.

NOTE

- When using the self-timer function, use a tripod or place the camera on a level, stable surface.

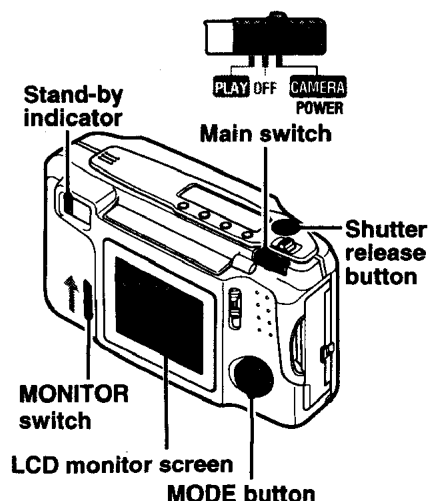
MANUAL SHOOTING MODE SETTING (EXPOSURE CORRECTION)

If the subject is made too dark (under exposed) by a bright surrounding, it can be corrected (made brighter) using this function.

- The exposure correction can only be used when taking the picture using the LCD monitor screen.

1 Set the main switch to the “CAMERA” position.

- The power is turned on.



2 Set the MONITOR switch to the “ON” position.

- An image is displayed on the LCD monitor screen.

3 Press MODE of the MODE button twice to select [EXPOSURE] display.

- Each time MODE is pressed, the selected mode switches as indicated below.

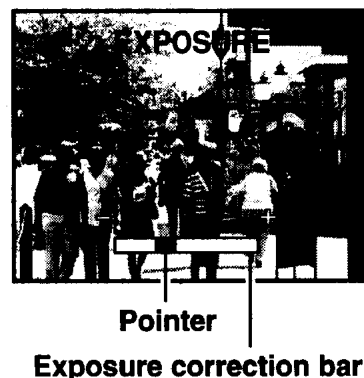
No display	
[AUTO/MAN.]	: Automatic and manual shooting mode
[EXPOSURE]	: Exposure correction
[APERTURE]	: Aperture priority shooting
[WHITE BALANCE]	: White balance correction setting
[DIGITAL ZOOM]	: Digital zoom setting (Only in High resolution mode)

- The exposure correction screen is displayed.



4 Press ◀ or ▶ of the **MODE** button to adjust the exposure as desired.

- The more the pointer is moved to the (–) side, the darker the image will become, and the more it is moved to the (+) side, the brighter the image will become.
- The pointer position corresponds to the exposure setting.
- The exposure is set.
- When the exposure correction function is used, the Stand-by indicator in the viewfinder will flash in green.



5 Take the picture.

- Refer to page 43, steps 5 and 6.
- Press SET of the **MODE** button to cancel the exposure correction display. Press **MODE** of the **MODE** button again to return to the exposure correction screen (step 3).
- The exposure correction setting is maintained even after the main switch is set to the "OFF" or the "PLAY" position, but the shooting mode is returned to automatic mode.
- To resume taking pictures using the previously set exposure correction, simply return to manual shooting mode. (See "CONCERNING THE AUTOMATIC AND MANUAL SHOOTING MODES" on page 39.)

■ When finished taking pictures, set the main switch to the "OFF" position.

To cancel the exposure correction settings (shooting using the standard exposure setting)

- Follow steps 1 to 4 above, then set the pointer to the centre position.

MANUAL SHOOTING MODE SETTING (APERTURE PRIORITY SHOOTING)

In automatic shooting mode, the pictures are taken in Programmed AE mode; the optimum iris aperture and shutter speed are set based on the subject brightness.

However, to take pictures at the smallest iris aperture or the iris fully opened fixed setting, you can use the aperture priority shooting mode.

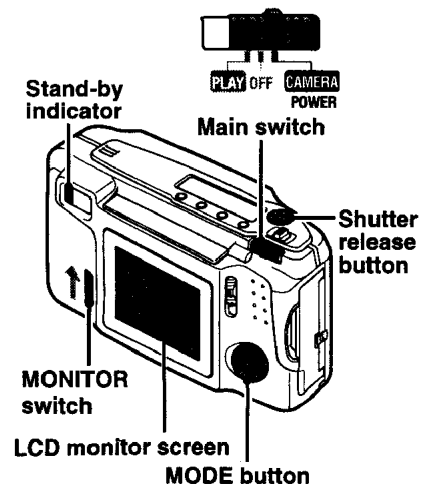
* Aperture priority shooting mode can only be used with the LCD monitor screen turned on.

1 Set the main switch to the "CAMERA" position.

- The power is turned on.

2 Set the MONITOR switch to the "ON" position.

- An image is displayed on the LCD monitor screen.

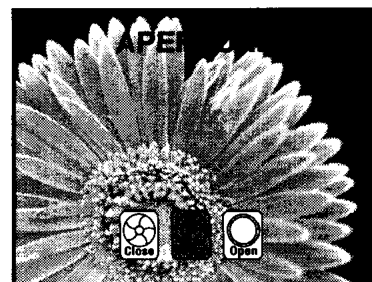


3 Press MODE of the MODE button 3 times to select [APERTURE] display.

- Each time MODE is pressed, the selected mode switches as indicated below.

No display	
[AUTO/MAN.]	: Automatic and manual shooting mode
[EXPOSURE]	: Exposure correction
[APERTURE]	: Aperture priority shooting
[WHITE BALANCE]	: White balance correction setting
[DIGITAL ZOOM]	: Digital zoom setting (Only in High resolution mode)

- The aperture priority shooting setting screen is displayed.



4 Press ◀ or ▶ of the MODE button to select or .



Closed iris icon:

Aperture priority shooting with iris closed mode

The iris will stay closed for the picture.

The picture will be taken at the smallest iris aperture, the shutter speed adjusted automatically and the optimum exposure correction. Note that if the lighting is not sufficient the picture will be under exposed.

Example of use: For deep depth of field photography.



Programmed AE mode icon:

This is the standard mode where the optimum iris aperture and shutter speed are set based on the subject brightness.



Opened iris icon:

Aperture priority shooting with iris opened mode

The iris will stay opened for the picture.

The picture will be taken with the iris fully opened, the shutter speed adjusted automatically and the optimum exposure correction. Note that if the lighting is bright the picture will be over exposed.

Example of use: For shallow depth of field, such as macro-zoom photography.

- The aperture priority shooting mode or programmed AE mode is now set.
- When using the aperture priority shooting mode, the stand-by indicator in the viewfinder will flash in green.

5 Take the picture.

- Refer to page 43, steps 5 and 6.
- Press SET of the MODE button to cancel the aperture priority shooting setting display. Press MODE of the MODE button again to return to the aperture priority shooting setting screen (step 3).
- The aperture priority shooting setting is maintained even after the main switch is set to the “OFF” or the “PLAY” position, but the shooting mode is returned to automatic mode.
- To resume taking pictures using the previously set aperture priority shooting, simply return to manual shooting mode. (See “CONCERNING THE AUTOMATIC AND MANUAL SHOOTING MODES” on page 39.)

■ When finished taking pictures, set the main switch to the “OFF” position.

To cancel the aperture priority shooting function (to return the programmed AE shooting mode).

- Perform the steps 1 to 4 and select the  icon.

MANUAL SHOOTING MODE SETTING (WHITE BALANCE CORRECTION)

The human eye compensates its perception of colours according to the weather or lighting conditions so that a white object will always appear to be white. This camera is equipped with a white balance correction function that, just like a human eye, averages the light within the scene and automatically adjusts the camera internal colour balance so that white will be reproduced as true white under most conditions. However, depending on the lighting conditions, the colours may still not be reproduced correctly, and a manual white balance adjustment may be necessary.

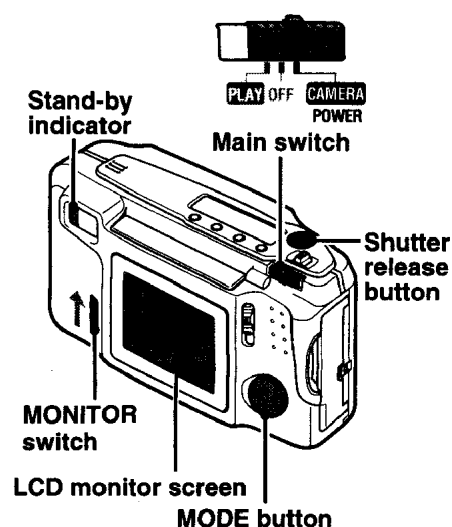
- The white balance correction function can only be set with the LCD monitor screen turned on.

1 Set the main switch to the "CAMERA" position.

- The power is turned on.

2 Set the MONITOR switch to the "ON" position.

- An image is displayed on the LCD monitor screen.

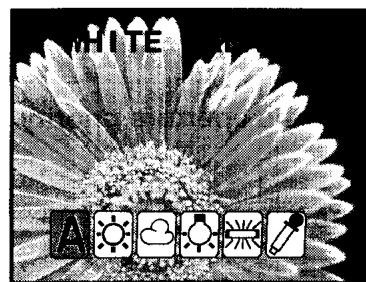


3 Press MODE of the MODE button 4 times to select [WHITE BALANCE] display.






- Each time MODE is pressed, the selected mode switches as indicated below.

No display	
[AUTO/MAN.]	: Automatic and manual shooting mode
[EXPOSURE]	: Exposure correction
[APERTURE]	: Aperture priority shooting
[WHITE BALANCE]	: White balance correction setting
[DIGITAL ZOOM]	: Digital zoom setting (Only in High resolution mode)



- The white balance correction setting screen is displayed.

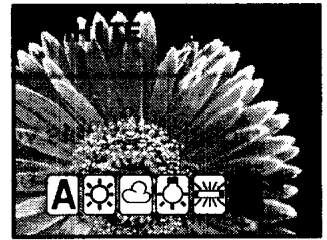


4 Press ◀ or ▶ of the **MODE** button to select the appropriate light source icon.

- A** : The camera will make the white balance adjustment automatically, based on the natural and artificial light conditions. This is the Automatic white balance setting.
-  : Use this setting to shoot outside on a sunny day.
-  : Use this setting to shoot outside on a cloudy day.
-  : Use this setting to shoot inside under incandescent lighting.
-  : Use this setting to shoot inside under fluorescent lighting.
-  : Use this setting for a more accurate adjustment or when the light source cannot be specified.

Setting procedure

- (1) Prepare a pure white card, approximately 30 x 25 cm.
 - If not available, you can use a white wall, tablecloth, etc.
- (2) Select the  icon.
- (3) Shoot the card full frame.
 - The card must be at approximately 30 cm of the camera lens.
 - If the card does not fill the frame, push the zoom switch to "T" side, until the card only fits in the frame.
- (4) Press SET of the MODE button.
 - [★] will be displayed to the right of the  icon.



- The white balance correction function is now set.
- When using the balance correction function, the stand-by indicator in the viewfinder will flash in green.

5 Take the picture.


- Refer to page 43, steps 5 and 6.
- Press SET of the MODE button to cancel the white balance correction display. Press MODE of the MODE button again to return to the white balance correction screen (step 3).
- The white balance correction setting is maintained even after the main switch is set to the "OFF" or the "PLAY" position, but the shooting mode is returned to automatic mode.
- To resume taking pictures using the previously set white balance correction, simply return to manual shooting mode. (See "CONCERNING THE AUTOMATIC AND MANUAL SHOOTING MODES" on page 39.)

■ When finished taking pictures, set the main switch to the "OFF" position.

To cancel the white balance correction function (to return the automatic white balance correction mode)

- Perform the steps 1 to 3 and select **A** icon.

To take sepia-tone photographs

- At step 4, select the  icon, then instead of a white card, make the white balance adjustment using a blue card. You can experiment changing the card colour on which the white balance is done to obtain different results.

MANUAL SHOOTING MODE SETTING (DIGITAL ZOOM SETUP)

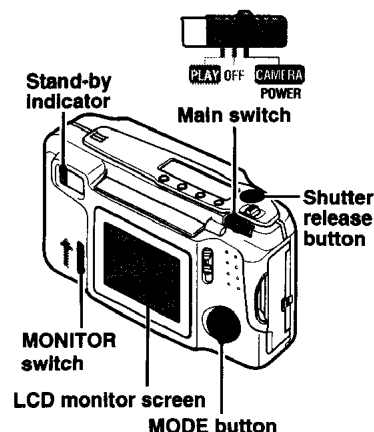
The digital zoom lets you enlarge (zoom in) the subject electronically.

The digital zoom can be used in combination with the optical zoom function for a greater enlargement.

- The digital zoom can only be set with the LCD monitor screen turned on, and when shooting in High resolution mode. (In sequential photography mode or Super-High resolution mode 1 or 2, the digital zoom function cannot be used.)

1 Set the main switch to the “CAMERA” position.

- The power is turned on.



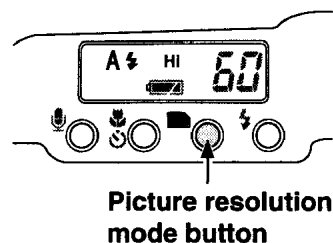
2 Set the MONITOR switch to the “ON” position.

- An image is displayed on the LCD monitor screen.

3 Press the picture resolution mode button to select [Hi] indication.

- Each time the button is pressed, the selected indication switches as follow.

S-Hi ₂	: Super-high resolution 2
Hi	: High resolution
[Hi]	: Sequential shooting
S-Hi ₁	: Super-high resolution 1



- The digital zoom setting screen is available only when the High resolution mode is selected.

4 Press the MODE of the MODE button 5 times to select [DIGITAL ZOOM] display.



- Each time MODE is pressed, the selected mode switches as indicated below.

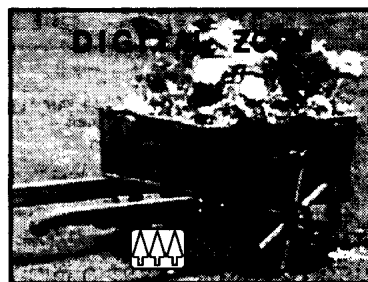
No display	
[AUTO/MAN.]	: Automatic and manual shooting mode
[EXPOSURE]	: Exposure correction
[APERTURE]	: Aperture priority shooting
[WHITE BALANCE]	: White balance correction setting
[DIGITAL ZOOM]	: Digital zoom setting (Only in High resolution mode)

- The digital zoom setting screen is displayed.



5 Press ◀ or ▶ of the MODE button to select .

-  :
Picture will be taken at the normal size
(Normal mode)
-  :
Picture will be taken at 2x enlargement
(Digital zoom mode)
- The digital zoom function is now set.
- When using the digital zoom mode, the stand-by indicator in the viewfinder will flash in green.




6 Take the picture.

- Refer to page 43, steps 5 and 6.
- Press SET of the MODE button to cancel the digital zoom setting display.
Press MODE of the MODE button again to return to the digital zoom setting screen (step 4).
- The digital zoom setting is maintained even after the main switch is set to the “OFF” or the “PLAY” position, but the shooting mode is returned to automatic mode.
- To resume taking pictures using the previously set digital zoom, simply return to manual shooting mode. (See “CONCERNING THE AUTOMATIC AND MANUAL SHOOTING MODES” on page 39.)

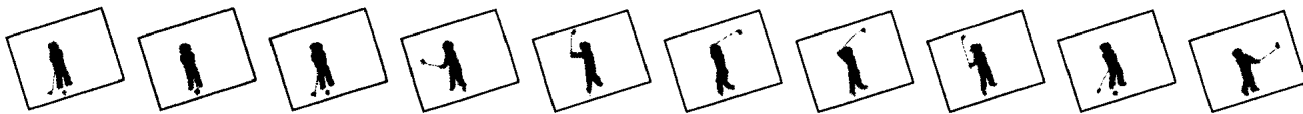
■ When finished taking pictures, set the main switch to the “OFF” position.

To cancel the digital zoom shoot setting (to return the normal shooting mode)

- Perform the steps 1 to 4 and select  icon.
- When the digital zoom is used, the enlarged image quality will become rougher. It is recommended, when possible, to use the optical zoom. (See page 45.)

SEQUENTIAL SHOT

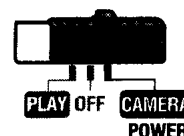
This mode will take up to 10 pictures sequentially at 0.5 second interval.



- Sequential shot is done in High resolution mode.
- In sequential shot the flash cannot be used.
- In sequential shot a voice memo cannot be recorded. (A voice memo can be added after the pictures have been taken. See page 65.)

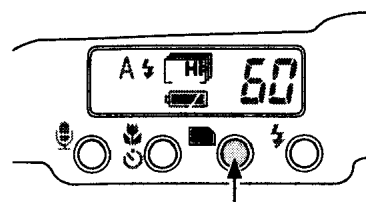
1 Set the main switch to the “CAMERA” position.

- The power is turned on.



2 Press the picture resolution mode button to select [HI] indication.

- Each time the button is pressed, the selected indication switches as follow.

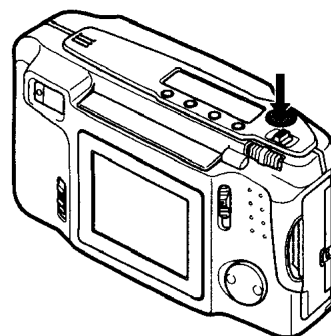


Picture resolution mode button

S-Hi ₂	: Super-high resolution 2	Picture quality (page 38)
Hi	: High resolution	Picture quality (page 38)
[HI]	: Sequential shot	
S-Hi ₁	: Super-high resolution 1	Picture quality (page 38)

3 Press and hold the shutter release button.

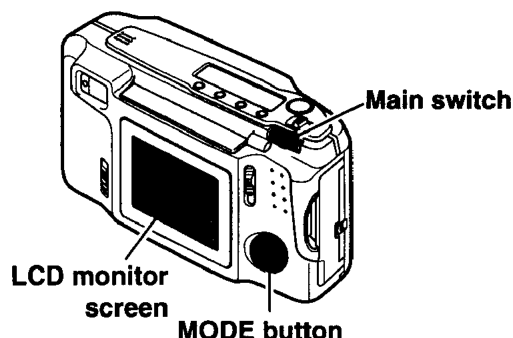
- To take 10 pictures sequentially at 0.5 second interval, press and hold the shutter release button.
- If the shutter release button is released before the 10 pictures have been taken, recording will stop.



■ When finished taking pictures, set the main switch to the “OFF” position.

PLAYING BACK ONE PICTURE

You can playback individually and immediately the pictures taken, on the LCD monitor screen.



1 Set the main switch to the “PLAY” position.

- A playback picture appears on the LCD monitor screen.
- When a picture has a voice memo attached to it, the Voice memo mark is displayed. To listen to the sound, see “PLAYING BACK PICTURES ON A TV SET” on page 63.



2 Press ◀ of the MODE button.

- Each time the button is pressed, the previous picture is displayed.
- When an image is read, the Processing image mark is displayed.
- To playback the next picture, press ▶ of the MODE button.
- The resolution indication, voice memo mark and the picture number are only displayed for about three seconds.

Resolution mode indication



Voice memo mark

Picture number

Processing image mark

-
- When finished, set the main switch to the “OFF” position.

HINT

- The date and time of the pictures can be displayed during playback (see page 28).

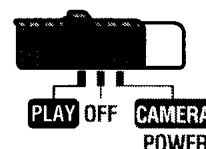
AUTOMATIC PLAYBACK, 9 PICTURES MULTI-PLAYBACK

Automatic Playback

You can playback the pictures taken and saved in the camera sequentially in a “slide-show” fashion.

1 Set the main switch to the “PLAY” position.

- A picture appears.



2 Press ◀ or ▶ of the MODE button for about 2 seconds.

- Automatic sequential playback (each image will be displayed for about 4 seconds) of the pictures will start.

3 To stop automatic playback, press MODE or SET of the MODE button.

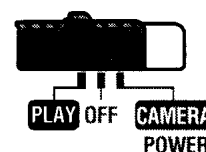
- When finished, set the main switch to the “OFF” position.

9 Pictures Multi-playback

You can displayed 9 pictures simultaneously, then select one to playback full screen.

1 Set the main switch to the “PLAY” position.

- A picture appears.



2 Press MODE of the MODE button.

- The [MULTI] indication is displayed on the LCD screen.
- Each time the button is pressed, the mode switches as indicated below.

No display
[MULTI]
[MAGNIFY X 2]
[PROTECT]
[ERASE]
[SPECIAL]

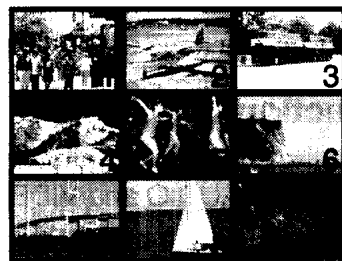


MULTI indication

3 Press ◀ or ▶ of the MODE button.

- 9 pictures multi-playback starts. If the button is pressed again, the 9 previous or 9 following pictures are displayed.
[◀]: To display the 9 previous pictures
[▶]: To display the 9 following pictures
- The last 3 digits only of the picture number are displayed.

9 pictures Multi-playback mode



Picture number
(will go off after 2 seconds)

4 If you wish to playback one of the 9 pictures displayed, press SET of the MODE button.

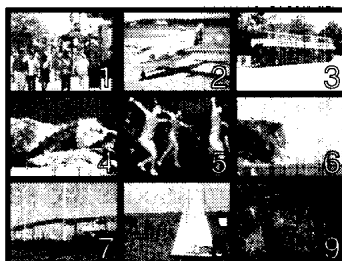
- The selection mark [↵] is displayed.

Selection
mark



Picture number (will not go off)

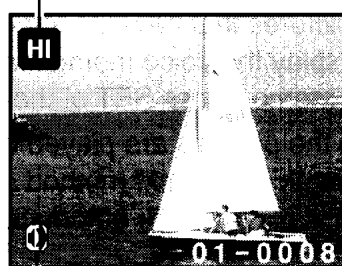
5 Press ◀ or ▶ of the MODE button, to select the desired picture.



6 Press SET of the MODE button.

- The selected picture will be displayed full-screen.
- A 4 digits number is displayed.
- The resolution, voice memo and picture number indications will go off after 3 seconds.

Resolution mode indication



Picture number

Voice memo mark

■ When finished, set the main switch to the “OFF” position.

If some pictures numbers are missing.

- The picture number refers to the picture data file location in the memory. Therefore, if some pictures have been erased their corresponding numbers are also erased but the following pictures numbers will remain the same, and it may appear like some pictures numbers are missing. For example, if picture number 0005 is erased, then at step 3 above pictures 1 to 4 and 6 to 9 are displayed.

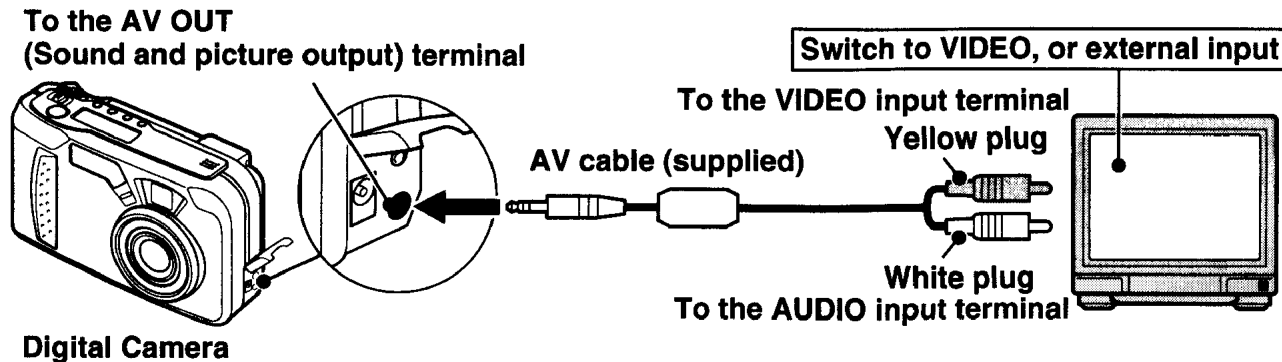
PLAYING BACK PICTURES ON A TV SET

The pictures you have saved in the camera, can also be played back on your TV set.

Connections

Connect the supplied AV cable from the AV OUT (Sound and picture output) terminal on the camera, to the AUDIO and VIDEO input terminals on your TV.

Then, press the input mode button on the TV, to select the external input or "VIDEO" mode.



- The sound output from the camera is monaural. If connecting it to a stereo TV be sure to use the audio left channel connector (white).
- If the TV is equipped with an EURO-AV type audio/video input terminal use the supplied SCART adaptor.

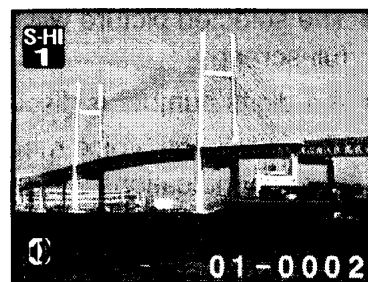
Playing Back the Images

- The playback method is the same as indicated under "PLAYING BACK ONE PICTURE" on page 60 or "AUTOMATIC PLAYBACK, 9 PICTURES MULTI-PLAYBACK" on page 61.

Playing Back the Sound

- The pictures that have an attached voice memo, will display the voice memo mark. To listen the voice memo, press SET of the MODE button.

When the pictures are played back using the "Automatic Playback" method on page 61, the sound is played back automatically.



Voice memo mark
(will go off after 2 seconds)

HINT

In order to save the batteries power

- Set the MONITOR switch to the "OFF" position, so the display will not also appear on the LCD monitor screen.
- This camera will playback images using a PAL format signal. It can only be used for playback with a PAL standard TV.

ENLARGING (ZOOMING IN) THE IMAGE

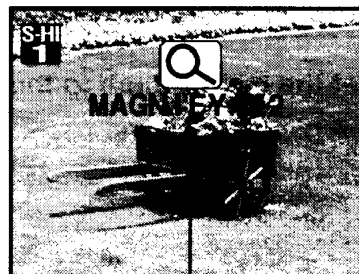
The saved images can be enlarged twofold during playback.

1 Display the picture to enlarge (see “PLAYING BACK ONE PICTURE” on page 60).

2 Press **MODE** of the **MODE** button 2 times.

- The [MAGNIFY x 2] indication is displayed on the LCD screen.
- Each time **MODE** is pressed, the selected mode switches as indicated below.

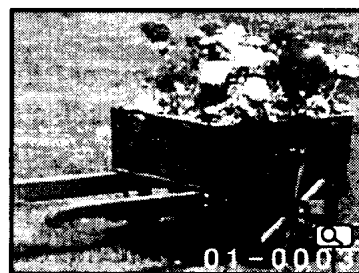
No display
[MULTI]
[MAGNIFY X 2]
[PROTECT]
[ERASE]
[SPECIAL]



MAGNIFY x2 indication

3 Press **SET** of the **MODE** button.

- The image will be enlarged twofold, the centre part of the image taking the whole screen.
- Press the **SET** one more time to return to the normal size display.



Magnify mark
(will go off after 2 seconds)

■ When finished, set the main switch to the “OFF” position.

NOTE

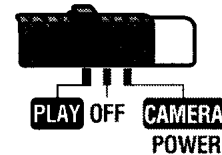
- As the image is enlarged, the quality will become rougher.

SOUND AFTER-RECORDING

A voice memo (sound recording) can be added to any picture taken with the camera.

If the SmartMedia Mis-recording protection function is active (a write-protect sticker is attached to the write-protect area), the sound after-recording will not be possible. (See page 71.)

- 1 Set the main switch to the "PLAY" position.**
 - A picture appears.



- 2 Press ◀ or ▶ of the MODE button to display the desired picture.**
 - If the Voice memo mark and the Protect mark are displayed with the selected picture, sound recording will not be possible. (see page 67.)
 - If the Voice memo or Protect mark only is displayed with the selected picture, sound recording can be performed.

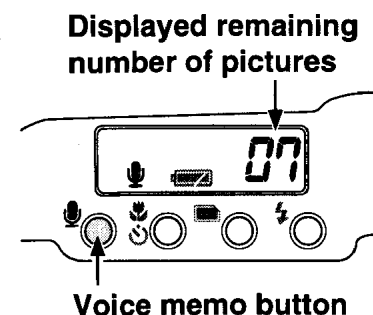


- 3 Press the Voice memo button to display the voice memo indication [🎤].**

- Each time the button is pressed, the voice memo mode switches as indicated below.

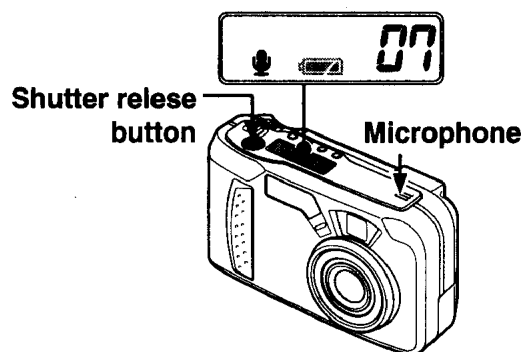
No display:	Voice memo function off
[🎤]:	Voice memo function on

- The displayed remaining number of pictures will change to indicate how many pictures can be taken at the selected resolution and using the voice memo function.



4 Press the Shutter release button, then talk into the microphone.

- The voice memo indication will flash for about 4 seconds, while the sound is being recorded.
- After the sound has been recorded, the voice memo function is automatically cancelled.



-
- When finished, set the main switch to the “OFF” position.
-

NOTE:

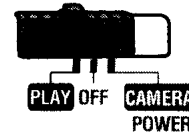
- The voice memo can also be recorded when the picture is taken, see “VOICE MEMO” on page 49.
- After a voice memo has been added to a picture, the sound part only cannot be erased, when the picture is erased, the corresponding sound is also erased.
- If a voice memo is added, using the Sound After-Recording function, to an image that was taken using the voice memo function (already has a voice memo) then the subsequent recording will replace any previous one.
- If the displayed remaining number of pictures that can be taken indicates “00”, then a voice memo cannot be added. See “About the Number of Pictures that Can Be Taken” on page 32.

PICTURE PROTECTION

You can prevent accidental erasure of the important pictures you wish to keep.

1 Set the main switch to the "PLAY" position.

- A picture appears.



2 Press ◀ or ▶ of the MODE button to display the image to protect.

- For images already protected, the protect mark (a padlock) [🔒] is displayed.
- If there are a lot of images saved in the camera, use the "9 Pictures Multi-Playback" method (see page 61), for faster selection.

3 Press MODE of the MODE button 3 times.

- [PROTECT] will be displayed on the LCD monitor screen.
- Each time MODE is pressed, the mode switches as indicated below.

No display
[MULTI]
[MAGNIFY X 2]
[PROTECT]
[ERASE]
[SPECIAL]



PROTECT indication

4 Press SET of the MODE button.

- The protection feature will be set for the displayed image, and the protect mark [🔒] will be displayed.
- Each time SET is pressed, the mode switches as indicated below.

No indication:	Protection feature off
[🔒]:	Protection feature on

- To protect more than one picture, repeat steps 2 and 4.
- Press MODE of the MODE button, to return to normal picture playback.

■ When finished, set the main switch to the "OFF" position.

NOTE:

- Even if the protect mode is set for certain pictures, they will be erased if the SmartMedia is reformatted (see page 72).

To cancel the protect mode for a picture

- Select the desired picture and repeat steps 2 to 4 above. The protect indicator will disappear and the protect mode is cancelled.

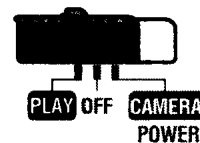
ERASING PICTURES

You can erase the missed pictures, or pictures that are no longer needed. You can erase the pictures one by one, or erase at once all the pictures saved in the camera.

If the SmartMedia Mis-recording protection function is active (a write-protect sticker is attached to the write-protect area), it will not be possible to erase the pictures. Remove the write-protect sticker, before attempting to erase pictures. (See page 71.)

Erasing One Picture

- 1 Set the main switch to the "PLAY" position.**
 - A picture appears.



- 2 Press ◀ or ▶ of the MODE button to display the image to erase.**
 - The protected pictures cannot be erased. If necessary, turn the protection feature off before erasing the image (see page 67).
 - If there are a lot of images saved in the camera, use the "9 Pictures Multi-Playback" method (see page 61), for faster selection.



Protect mark

- 3 Press MODE of the MODE button 4 times.**
 - [ERASE] will be displayed on the LCD monitor screen.
 - Each time the button is pressed, the mode switches as indicated below.

No display
[MULTI]
[MAGNIFY X 2]
[PROTECT]
[ERASE]
[SPECIAL]

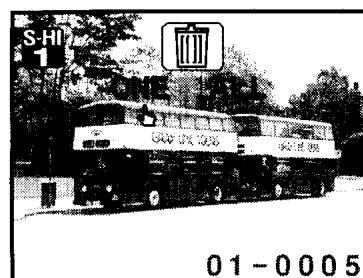


ERASE indication

ERASING PICTURES

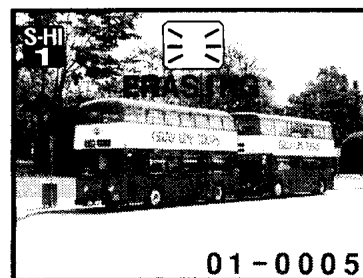
4 Press SET of the MODE button.

- The ONE (erase one picture) / ALL (erase all pictures) selection screen will be displayed.
- Make sure the selection mark [✓] points to ONE.



5 Press SET of the MODE button.

- [ERASING] is displayed, and the selected image is erased.
- If the image had a voice memo attached, it will also be erased.
- To erase more than one picture, repeat steps 2, 4, 5.
- Press MODE of the MODE button, to return to normal picture playback.



■ When finished, set the main switch to the "OFF" position.

Erasing All the Pictures

All the pictures saved in the camera can be erased together. However, the protected pictures and their voice memo cannot be erased. Also, if the SmartMedia Mis-recording protection function is active (a write-protect sticker is attached to the write-protect area), it will not be possible to erase the pictures. Remove the write-protect sticker, before attempting to erase pictures. (See page 71.)

1 Set the main switch to the "PLAY" position.

- A picture appears.



2 Press MODE of the MODE button 4 times.

- [ERASE] will be displayed on the LCD monitor screen.
- Each time the button is pressed, the mode switches as indicated below.

No display
[MULTI]
[MAGNIFY X 2]
[PROTECT]
[ERASE]
[SPECIAL]



ERASE indication

3 Press SET of the MODE button.

- The ONE (erase one picture) / ALL (erase all pictures) selection screen will be displayed.



4 Press ◀ or ▶ of the MODE button, until the selection mark [↵] points to ALL.



5 Press SET of the MODE button.

- The confirm screen [ERASE ALL ?] is displayed.
- To cancel the erase operation, press MODE, ◀ or ▶ of the MODE button, to return to step 4.



6 To erase, press SET of the MODE button.

- [ERASING] is displayed, and all the images without the protection feature on are erased.
- If the images had a voice memo attached, they will also be erased.
- After all the pictures have been erased, a grey screen will appear on the LCD monitor screen.
- If some pictures were protected, then one of the protected picture and [ERASE] will be displayed on screen. To erase the protected pictures, fast cancel the protect mode and erase them. (See page 67.)
- Press MODE of the MODE button, to return to normal picture playback.



Protect mark

■ When finished, set the main switch to the "OFF" position.

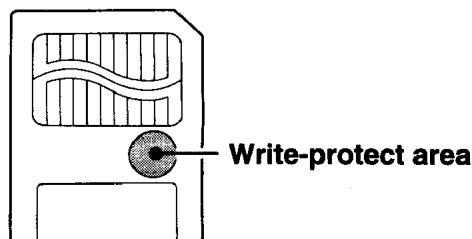
USING THE SmartMedia

The supplied SmartMedia is a data storage media used in your digital camera, to store the recordings. Make sure to install the SmartMedia in the digital camera before taking pictures (see "INSTALLING AND REMOVING THE SmartMedia" on page 22).

Avoiding Accidental Erasure of Important Data Recorded on the SmartMedia (Mis-Recording Protection Function)

Attach a write-protect sticker to the write-protect area (see page 11).

- Recording (shooting) and/or erasure will no longer be possible.
- Attach the sticker so that it is fully within the write-protect area, and so that it is fully flat and will not peel off, otherwise problems may occur.
- If the sticker becomes dirty, or if it is not fully within the write-protect area, the mis-recording protection function may not work properly. Gently wipe away any contamination with a soft, dry cloth.
- If you would like to record additional data or erase existing data, remove the write-protect sticker.
- Do not re-use any write-protect stickers once they have been removed from the SmartMedia, as their adhesion force will diminish and problems may occur if they are re-used.



NOTE

- The SmartMedia is a consumable item. After it has been used for a long period of time, recording and playback of image data may no longer be possible. In such a case, you will need to purchase a replacement.
- If the SmartMedia is removed from the digital camera or if the digital camera's power supply is turned off during reading or writing operations, the data stored on the SmartMedia may become lost (corrupted). Sanyo will not be responsible for any damage or loss of profits arising from the loss of data.
- Please read carefully "Precautions when handling the SmartMedia" on page 10.
- Store the SmartMedia inside its protective case to protect it from static electricity (see page 11).

Formatting the SmartMedia

The supplied SmartMedia is initialised (formatted) before its release for sale, so it can be used immediately after it is inserted into the digital camera. However, the formatting may have been corrupted by static electricity and it may be impossible to use the SmartMedia. In such a case, follow the steps indicated here to reformat it.

Also, if using a SmartMedia card from another manufacturer, or if the card has been formatted by a computer, reformat the card using the camera to restore the optimum format capacity.

If a write-protect sticker is attached to the write-protect area, the Mis-recording protection function is active, formatting of the SmartMedia will not be possible. Remove the write-protect sticker, before attempting to format the SmartMedia.

CAUTION

- Please note that even the protected images (see page 67) will be erased.

1 Insert the SmartMedia into the camera (see page 22).

2 Set the main switch to the "PLAY" position.



3 Press **MODE** of the **MODE** button to display the **[SPECIAL]** indication.

- If there are previous recordings, the mode switches as indicated below, each time the button is pressed.

No display
[MULTI]
[MAGNIFY X 2]
[PROTECT]
[ERASE]
[SPECIAL]



SPECIAL indication

USING THE SmartMedia

- 4** Press SET of the MODE button.
- [CLOCK] and [FORMAT] are displayed.

- 5** Press ◀ or ▶ of the MODE button, until the selection mark [↵] points to [FORMAT].



- 6** Press SET of the MODE button.
- The confirm screen [REFORMAT?] is displayed.

- 7** Press ◀ or ▶ of the MODE button, until the selection mark [↵] points to [YES].



- 8** To format, press SET of the MODE button.
- [FORMATTING] is displayed, and formatting of the SmartMedia will start.
 - After the SmartMedia has been formatted, a grey screen will appear on the LCD monitor screen.



- When finished, set the main switch to the "OFF" position.

HELP

To cancel the formatting function before format is started.

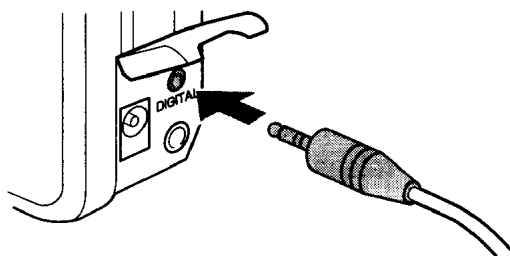
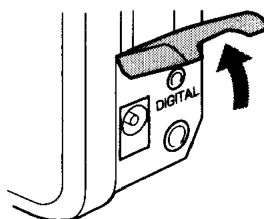
- At step 7, select [NO], then press MODE of the MODE button to return [SPECIAL] indication screen.

USING THE CAMERA WITH THE COMPUTER

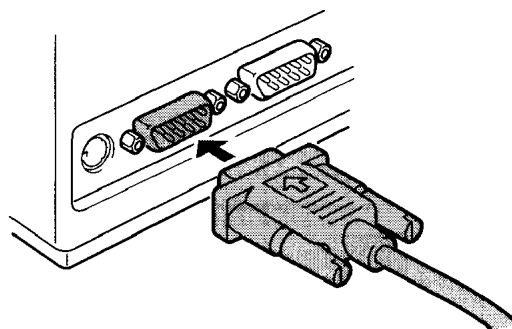
Your camera takes pictures that are saved as image files and can be directly downloaded to an IBM compatible personal computer running Windows 3.x, Windows 95, Windows 98, Windows NT 4.0 software, or a Macintosh or Power Mac computer. The images can then be edited using the supplied software, and added to documents such as reports, multimedia presentations, World-Wide Web (Internet) home pages, etc.

Connecting the Camera to the Computer

- 1** Make sure the camera is turned off.
- 2** Open the terminal cover on the side of the camera.
- 3** Plug the jack of the supplied interface cable into the DIGITAL terminal.



- 4** Plug the other connector of the interface cable into the computer serial port (9-pin male connector), and tighten the screws.
 - If your computer is only equipped with one 9-pin serial port, you may have to temporarily unplug the connected device to connect the camera to the computer. (If using a Macintosh computer, you will need to use the supplied adaptor.)



- 5** Set the main switch to the "PLAY" or "CAMERA" position and turn on the computer.
 - For the software installation and instructions, please refer to the utility software manual.

NOTE

- When the camera is connected to a computer there is no display on the LCD monitor screen.

TROUBLESHOOTING

	Problem	Cause	Action	Reference page
Power	No power.	The batteries are dead.	Change to the new batteries.	21
		The batteries have not been inserted correctly.	Reinsert the batteries, making sure the polarity (+), (-) is as indicated.	
		The batteries compartment cover is not fully closed.	Close batteries compartment cover properly.	
		Due to cold temperatures, the batteries temporarily lost their power.	Place the camera in your pocket to warm it up before using it.	
Taking pictures	A picture is not taken when the shutter release button is pressed.	A write-protect sticker is attached to the write-protect area of the SmartMedia.	Remove the write-protect sticker.	71
		The power is not turned on.	If the power save function has turned the camera off, set the main switch to "OFF" position once and reposition to "CAMERA" or press on the shutter release button once to turn the camera back on.	24, 25
		The stand-by indicator is flashing red (the camera is getting ready to take a picture).	Wait until the stand-by indicator lights in green to take the picture.	17
		The memory is full (the stand-by indicator lights in red, the displayed remaining number of pictures that can be taken becomes "00" on the control panel).	Install a new SmartMedia.	22
			Erase the pictures that are not necessary. Save the pictures to separate media, then erase all the pictures from the SmartMedia.	34, 68

	Problem	Cause	Action	Reference page
Taking pictures	The flash does not light.	The flash off mode is selected.	Press the flash button to set it to automatic flash mode, forced flash mode or red-eyes reduction mode.	47
		The camera has determined that the picture is bright enough and the flash is not necessary.	Not a malfunction. Take the picture, the camera will determine when the flash is necessary.	
		The batteries are dead.	Change the batteries.	21
LCD monitor screen	If played back in cold weather, the picture may seem to present curved sides.	Condition due to the liquid crystals.	Not a malfunction.	
	The image presents some red, blue and green dots, or there are black spots visible.			
	The area around the LCD monitor screen is warm.			
	When taking a picture, no image is displayed on the LCD monitor screen.	The lens cap is set, or the MONITOR switch is set to the "OFF" position.	Remove the lens cap or set the MONITOR switch to the "ON" position.	43
	No playback picture appears.	The main switch is not set to the "PLAY" position.	Set the main switch to the "PLAY" position.	60
	The image is too dark to watch.	The solar panel cover is opened.	Return the solar PANEL switch to the "CLOSE" position.	33

TROUBLESHOOTING

	Problem	Cause	Action	Reference page
Picture quality	The focus does not work.	The subject is too close to the camera.	If the subject is at 20 – 80 cm from the lens, press the Macro/Self-timer button to display the Macro mode indication [📷] on the control panel (macro photography). If the subject is at more than 80 cm from the lens, press the Macro/Self-timer button to erase the Macro mode indication [📷] from the control panel (standard photography).	42, 43, 46
		The Macro/Self-timer button is not properly.		
		The camera moved when the shutter was released.	Press the shutter release button halfway, when the focus-lock function locks the focus on the subject, press the shutter release button fully to take the picture.	41 – 43
		The focus-lock function is not used.		
		The lens is dirty.	Clean the lens.	9
	The picture is too dark.	The flash was blocked by a finger or other.	Hold the camera correctly, make sure the flash is not obstructed.	41
		The subject was too far away.	Take the picture in the range of operation of the flash.	47
		The subject was backlit.	Use the forced flash mode.	
			Use the exposure correction function.	51

	Problem	Cause	Action	Reference page
Picture quality	The picture is too bright.	The forced flash mode is selected.	Select a different flash mode.	47
		The subject was too bright.	Change the angle of the camera or the subject.	
			Use the exposure correction function.	51
	The colours of the pictures taken indoors are not correct.	This is due to fluorescent lighting.	Take the picture using the forced flash mode.	47
		The white balance correction setting is not correct.	Set the white balance correction to automatic (select the A icon) or to the appropriate light source setting.	55
	A part of the picture is missing.	The hand-strap or a finger was blocking the lens.	Hold the camera correctly, make sure the lens is not obstructed.	41
		The picture was taken at close range.	When taking a picture at close range, use the close-up alignment correction marks or compose the picture using the LCD monitor screen.	43, 46
	No picture (Ⓜ is displayed).	This may happen when trying to play back pictures stored on the SmartMedia using a different digital camera.	Playback pictures stored on the SmartMedia using this camera.	71
			Format the SmartMedia.	72

TROUBLESHOOTING

	Problem	Cause	Action	Reference page
Playing back the pictures on a TV set	No image or sound.	The camera is not correctly connected to the TV screen.	Follow the instructions to make the connection correctly.	63
		The TV input is not set correctly.	Set the input on the TV to "VIDEO".	
	There is no sound.	The volume on the TV is set to the minimum.	Adjust the volume on the TV.	
		No sound has been recorded with the pictures.	Set the voice memo after recording mode and talk into the microphone.	
	Some noise is heard when the main switch is set to the "PLAY" position.	Normal condition.	Not a malfunction.	

SPECIFICATIONS

Digital Camera

Type	CCD Digital camera (recording and playback)		
Recording system	Digital recording		
Picture file format	Still images: JPEG compliant (Exif Ver 2.1 compliant) Sound: WAV (Monaural)		
Image storage device	SmartMedia (3.3 V) 2 MB, 4 MB, 8 MB, 16 MB		
Recording capacity (with a 4 MB SmartMedia)	Without voice memo	Still image	Super-High resolution mode 1 (1,280 x 960 pixels): 9 pictures Super-High resolution mode 2 (1,280 x 960 pixels): 18 pictures High resolution mode (640 x 480 pixels): 60 pictures
		Sequential shot	High resolution mode (640 x 480 pixels): 60 pictures (for one-take sequence at 0.5 second interval: 10 pictures max.)
	With voice memo	Still image	Super-High resolution mode 1 (1,280 x 960 pixels): 8 pictures Super-High resolution mode 2 (1,280 x 960 pixels): 15 pictures High resolution mode (640 x 480 pixels): 41 pictures
Erase method	1 picture erase, or all pictures erase		
Image sensor	1/2.7 inch CCD solid-state type image pickup, 1,310,000 pixels (picture elements)		
Recorded picture image definition	1,280 x 960 pixels (Super-High resolution 1, 2) 640 x 480 pixels (High resolution)		
White balance	Full auto TTL, possible to set manually		
Lens	3x zoom lens, f=5.2 mm – 15.6 mm (equivalent f=34 mm – 102 mm lens on a 35mm camera)		
Aperture	Opened F=2.8 (Wide angle) – 4.7 (Telephoto) Closed F=8.0 (Wide angle) – 13.5 (Telephoto)		
Photometric system	Image sensor based TTL centre balanced average metering type		
Exposure control type	Aperture, shutter range programmed exposure/aperture priority (exposure correction function available)		
Range	80 cm – ∞ (normal photography) 20 cm – 80 cm (macro photography)		
Digital zoom	Shooting related: 2.0x (only High resolution) Playback related: 2.0x		
Shutter	1/2 – 1/750 sec. (when the flash is used: 1/30 – 1/750 sec.) Mechanical shutter (use jointly)		
Exposure	Equivalent to ISO 90		

SPECIFICATIONS

Viewfinder	Optical direct image viewfinder (Close-up alignment correction marks, Auto focus marks)	
LCD monitor screen	2.0 inch, Low temperature Polysilicon TFT colour LCD (with sunlight backlight)	
Monitor pixels	Approx. 110,000 pixels	
Flash working range	0.8m – 2.8m (Normal photography, wide angle) 0.8m – 1.6m (Normal photography, telephoto) 0.2m – 0.8m (macrophotography) Guide number: 8.6	
Flash modes	Auto-flash, Flash off, Forced flash, Red-eyes reduction	
Auto focus	TTL	
Self-timer	10 sec. delay	
Time/Date	Recorded with picture data (automatic calendar from the year 1970 to 2037)	
Operating environment	Temperature	0 – 40°C (operation), –20 – 60°C (storage)
	Humidity	30 – 90 % (operation, non condensing), 10 – 90 % (storage, non condensing)
Power supply	Battery	4 AA alkaline batteries (or AA Nickel Metal Hydride batteries, AA NiCd batteries)
	AC adaptor (sold separately)	VAR-G2E
Dimensions	128 (W) x 55 (H) x 70.5 (D) mm (with the lens inside, without lens cap)	
Weight	Approx. 300 g (without batteries)	

Camera Connectors

AV OUT (Sound and picture output) terminal	ø3.5 mm mini jack	
	Audio output	308 mVrms (–8dBs), 2.2 kΩ or less, monaural
	Video output	1.0 Vp-p, 75 Ω unbalanced, sync negative composite video PAL colour TV system
DIGITAL (communication terminal)	ø2.5 mm mini jack, RS-232C serial port (230.4 kbps max)	
DC IN (External DC power input) terminal	DC 6.5/7.0 V (for exclusive use of AC Adaptor (VAR-G2E) (sold separately))	

Supplied SmartMedia

Model number		DSM-S4EX
Type		Image memory card for digital cameras
Memory capacity		4 MB
Operating environment	Temperature	0 – 40°C (operation, storage)
	Humidity	30 – 90 % (operation, non condensing), 10 – 90 % (storage, non condensing)
Operating voltage		DC 3.3 V
Dimensions		45 mm (D) x 37 mm (W) x 0.76 mm (H)
Weight		Approx. 1.8 g

- Products are subject to change in design and specifications without notice and without incurring any obligation.

GUARANTEE TO CUSTOMER

Sanyo U.K. Sales Ltd. (the Company) guarantees to the initial retail purchaser that if this equipment is or becomes defective and that, in the opinion of the Company, the defect is due to faulty material or workmanship the Company will, for a period of 12 calendar months from the date of sale to the original purchaser repair or replace, at its sole option, free of charge, any such defective component part of the equipment, always provided that:-

1. The equipment has at all times been used in accordance with the operating instructions issued by the Company, and has not been connected to an electrical mains supply for which it has not been adjusted.
2. Accidental damage, or damage caused by negligence or misuse by the user, including leakage from exhausted batteries, is specifically excluded.
3. Unauthorised repairs, or any modification to the equipment which has not been expressly approved by the Company, shall render this guarantee null and void.
4. Failure due to fair wear and tear of any item, such as batteries, record playing styli, and tape recording, playback and erase heads and head cleaning is specifically excluded.

This guarantee is not transferable and is only applicable within the United Kingdom (and the Republic of Ireland). Nothing in this express guarantee affects the statutory rights available to the purchaser of this equipment.

Dear Customer

Thank you for buying Sanyo. This equipment should give you many years of pleasure and faithful service but in the event that a fault occurs, the following notes for your guidance may be helpful:-

1. PLEASE RETAIN YOUR PURCHASE RECEIPT WHICH WILL BE REQUIRED FOR SERVICE DURING GUARANTEE.
2. If your Sanyo equipment proves faulty during the period of guarantee, take it or send it back to the dealer who originally supplied it together with this guarantee and the proof of purchase. We have made arrangements with our approved dealers under which they will carry out in guarantee service repairs on our behalf. In this way, we hope to reduce to a minimum the amount of time you will be without your equipment.
3. If for some reason it is impossible to return the equipment to the original supplier, please contact our Service Administration Department at the address below for further advice.
4. Should the equipment require servicing after the expiry of the guarantee period, take or send it to the original supplier or any other Sanyo dealer. He will be pleased to give you a quotation for the repair. If you are in any doubt about what to do, write to us at the address below or telephone:

Sanyo U.K. Sales Ltd.

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